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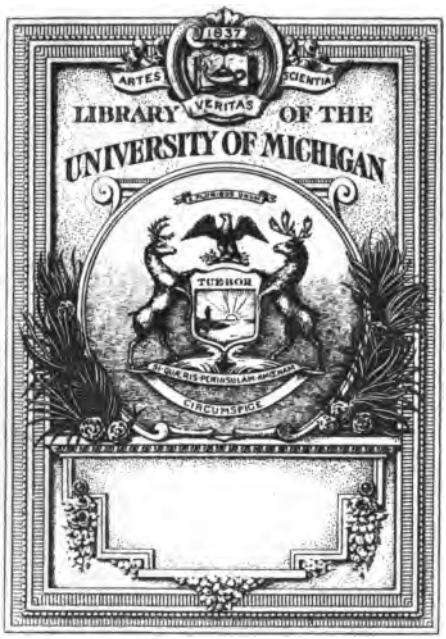

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AUCKLAND

University College

(UNIVERSITY OF NEW ZEALAND).

CALENDAR

FOR THE YEAR 1906.

Auckland:

PRINTED FOR THE UNIVERSITY COLLEGE.

MDCCCCVI.

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PRINTED BY WILSON AND HORTON.

1906.

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Registrar:

DAVID WILLIAMSON RUNCIMAN, M.A.

* *Ex officio.*

A. Appointed by the Governor in Council.
B. Elected by the Members of the General Assembly resident in the Provincial District of Auckland.
C. Elected by Graduates.
1. Until May, 1906.
2. Until May, 1907.
3. Until May, 1908.

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Professors and Lecturers.

Professors:

Classics.

HENRY ARNOLD TALBOT-TUBBS, M.A. Oxford; sometime Craven Fellow, and Arnold Historical Prizeman.

English.

CHARLES WILLIAM EGERTON, M.A. Dublin; Senior Moderator and Gold Medallist, 1885; Vice-Chancellor's Prizeman in English Prose Composition.

Mathematics.

HUGH WILLIAM SEGAR, M.A. Cambridge; Second Wrangler, 1890; Smith's Prizeman, 1892.

Chemistry and Experimental Physics.

FREDERIC DOUGLAS BROWN, Hon. M.A. Oxford, B.Sc. London, F.C.S.

Biology and Geology.

ALGERNON PHILLIPS WITHIEL THOMAS, M.A. Oxford, F.L.S., F.G.S.; Burdett-Coutts University Scholar.

Music.

WILLIAM EDWIN THOMAS, Mus. Doc., Oxford; late Director of the Music at All Saints' School, Bloxham, Oxford; late Organist and Choirmaster of St. Clement's, Bournemouth; late Examiner of the London College of Music; late Hon. Local Examiner of R.A.M., London.

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Lecturers:

Modern Languages.

MAXWELL WALKER, M.A.

Law.

H. DEAN BAMFORD, B.A., LL.D.; Barrister at Law.

Mental Science, Economics, History, and Commercial Geography

J. P. GROSSMAN, Esq., M.A.

Accounting.

HORACE H. HUNT, Esq., F.N.Z.A. and A.A.

Education.

HERBERT A. E. MILNES, B.Sc., Lond.

Mining Engineering.

To be appointed.

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JANUARY—XXXI.

1	M	
2	Tu	
3	W	
4	Th	
5	F	
6	S	
7	S	
8	M	
9	Tu	
10	W	
11	Th	
12	F	
13	S	
14	S	
15	M	Council meets.
16	Tu	
17	W	Third Professional Medical and Veterinary Examination generally held about this date.
18	Th	
19	F	
20	S	
21	S	
22	M	Meeting of Recess Committee of Senate on results of December Examination held about the 22nd.
23	Tu	
24	W	Senate meets at Dunedin. Applications for *ad eundem* degrees not received after this date.
25	Th	
26	F	The Bowen Prize awarded during Session of Senate.
27	S	
28	S	
29	M	
30	Tu	
31	W	

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FEBRUARY—XXVIII.

1	TH	
2	F	
3	S	
4	**S**	
5	M	
6	TU	
7	W	
8	TH	
9	F	
10	S	
11	**S**	
12	M	
13	TU	
14	W	
15	TH	
16	F	
17	S	
18	**S**	
19	M	First Meeting of College Council, 1883. Council
20	TU	meets.
21	W	
22	TH	
23	F	
24	S	
25	**S**	
26	M	Election of Rhodes Scholar about the end of
27	TU	February.
28	W	

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MARCH—XXXI.

1	TH	
2	F	
3	S	
4	**S**	
5	M	First Term begins.
6	TU	
7	W	
8	TH	
9	F	
10	S	Candidates' notices, with fee for April Special
11	**S**	Medical Examination, must be in by this date.
12	M	
13	TU	
14	W	
15	TH	
16	F	
17	S	
18	**S**	
19	M	Council meets.
20	TU	
21	W	
22	TH	
23	F	
24	S	
25	**S**	
26	M	
27	TU	
28	W	
29	TH	
30	F	
31	S	

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APRIL—XXX.

1	S	
2	M	Special Medical Examination held during this month if required.
3	Tu	
4	W	
5	Th	
6	F	
7	S	
8	S	
9	M	
10	Tu	
11	W	
12	Th	
13	F	Good Friday. Easter Recess begins.
14	S	Special Meeting of Senate to consider results of Degree Examinations held about this date.
15	S	Easter Sunday.
16	M	Council meets.
17	Tu	Easter Recess ends.
18	W	
19	Th	
20	F	
21	S	
22	S	
23	M	
24	Tu	
25	W	
26	Th	
27	F	
28	S	
29	S	
30	M	

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MAY—XXXI.

1	TU	Candidates' notices, accompanied by fees, for M.A., Honours in Arts, Science or Law, Mus. B., Mus. D., LL.D., Litt. D., D.Sc., Senior and Tinline Scholarships, and all Engineering Examinations, must be in by this date, or with two guineas extra by May 15th, or with four guineas extra by May 29th.
2	W	
3	TH	
4	F	
5	S	
6	S	
7	M	
8	TU	
9	W	
10	TH	First Term ends.
11	F	Candidates' notices and fees for M.D. Examination must be in during this month.
12	S	
13	S	
14	M	Council meets.
15	TU	
16	W	
17	TH	
18	F	University College opened by His Excellency the Governor (Sir Wm. Jervois, G.C.M.G.), 1883.
19	S	
20	S	
21	M	
22	TU	
23	W	
24	TH	
25	F	
26	S	
27	S	
28	M	
29	TU	
30	W	
31	TH	

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JUNE—XXX.

1	F	
2	S	
3	S	
4	M	Second Term begins.
5	Tu	
6	W	
7	Th	
8	F	
9	S	
10	S	
11	M	
12	Tu	
13	W	
14	Th	
15	F	
16	S	
17	S	
18	M	Council meets.
19	Tu	
20	W	
21	Th	
22	F	
23	S	
24	S	
25	M	
26	Tu	
27	W	
28	Th	
29	F	
30	S	

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JULY—XXXI.

1	S	
2	M	
3	Tu	
4	W	
5	Th	
6	F	
7	S	
8	S	
9	M	
10	Tu	
11	W	
12	Th	
13	F	
14	S	
15	S	
16	M	Council meets
17	Tu	
18	W	
19	Th	
20	F	
21	S	
22	S	
23	M	
24	Tu	
25	W	
26	Th	
27	F	
28	S	
29	S	
30	M	
31	Tu	

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AUGUST—XXXI.

1	W	
2	TH	
3	F	
4	S	
5	**S**	
6	M	
7	TU	
8	W	
9	TH	
10	F	Second Term ends.
11	S	
12	**S**	
13	M	Council meets.
14	TU	
15	W	Undergraduates exempted under Statute "Terms
16	TH	and Lectures" must give notice by the
17	F	15th to the College Registrar of their in-
18	S	tention to come up for Annual Examination.
19	**S**	
20	M	
21	TU	
22	W	
23	TH	
24	F	
25	S	
26	**S**	
27	M	
28	TU	
29	W	"New Zealand University Act, 1874," passed.
30	TH	
31	F	

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SEPTEMBER—XXX.

1	S	Candidates' notices with fees for the November Examinations (except as shown on page 12 of University Calendar) not received by the University Registrar after this date, except with two guineas extra up to Sept. 8th.
2	S	
3	M	
4	Tu	
5	W	Third Term begins on 3rd.
6	Th	
7	F	
8	S	
9	S	
10	M	
11	Tu	"Auckland University College Act, 1882," passed.
12	W	
13	Th	
14	F	
15	S	
16	S	
17	M	Council meets.
18	Tu	
19	W	
20	Th	
21	F	
22	S	
23	S	
24	M	
25	Tu	
26	W	
27	Th	
28	F	
29	S	
30	S	

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OCTOBER—XXXI.

1	M	Last day of receiving notices for Annual Examination; but names may be received by the Registrar up to the eighth day of October, on payment of a fine of half-a-guinea.
2	Tu	
3	W	
4	Th	
5	F	"New Zealand University Amendment Act, 1902," passed on 3rd.
6	S	
7	S	
8	M	
9	Tu	
10	W	
11	Th	
12	F	
13	S	
14	S	
15	M	Council meets.
16	Tu	
17	W	Candidates for the December Examinations must send in notices and fees to the University Registrar by a date to be found in the University of New Zealand Calendar for 1906-1907.
18	Th	
19	F	
20	S	
21	S	
22	M	
23	Tu	
24	W	
25	Th	
26	F	
27	S	
28	S	
29	M	
30	Tu	
31	W	

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NOVEMBER—XXX.

1	TH	Examinations for Degrees in Arts, etc., held this month.
2	F	
3	S	
4	S	
5	M	
6	TU	
7	W	
8	TH	
9	F	King's Birthday
10	S	Third Term ends
11	S	
12	M	
13	TU	
14	W	
15	TH	
16	F	
17	S	
18	S	
19	M	Council meets.
20	TU	
21	W	
22	TH	
23	F	
24	S	
25	S	
26	M	
27	TU	
28	W	
29	TH	
30	F	

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DECEMBER—XXXI.

1	S	
2	**S**	
3	M	
4	Tu	
5	W	
6	Th	
7	F	
8	S	
9	**S**	
10	M	
11	Tu	
12	W	
13	Th	
14	F	
15	S	
16	**S**	
17	M	Council meets.
18	Tu	
19	W	
20	Th	
21	F	
22	S	
23	**S**	
24	M	
25	Tu	Christmas.
26	W	
27	Th	
28	F	
29	S	
30	**S**	
31	M	

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Auckland University College.

HISTORICAL SKETCH.

THE introduction of University Education into New Zealand was effected by the Superintendent and Provincial Council of Otago, who, in 1869, passed an Ordinance under which the University of Otago was established. Following closely on the founding of this institution was the establishment of the University of New Zealand under an Act of the General Assembly, "The New Zealand University Act, 1870." This University subsequently received a Royal Charter, whereby the Degrees which it confers are declared entitled to "rank, precedence, and consideration" throughout the British Empire, "as fully as if the said Degrees had been conferred by any University of the United Kingdom." It was apparently contemplated by Parliament (*vide* section 19 of the Act last quoted) that the New Zealand University and the Otago University should be amalgamated; but the negotiations for this purpose having failed, the two institutions remained for some time distinct bodies. In the year 1874, however, the University of Otago surrendered or put in abeyance its power of conferring Degrees, and became affiliated to the University of New Zealand; and at the same time it was stipulated that the University of New Zealand should not directly exercise functions of teaching.

In the year 1873 the Superintendent and Provincial Council of Canterbury passed an Ordinance for founding "The Canterbury College;" and the College was accordingly established with the same standard of University education as that of the University of Otago, but without the power of conferring Degrees.

In December, 1878, a Royal Commission on University and Secondary Education was appointed by the Governor of New Zealand. This Commission, of which Sir George Maurice O'Rorke was Chairman, met in January, 1879, and on the 9th

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of July following reported that two Colleges, with an income of £4,000 each, ought to be established in Auckland and Wellington, and that suitable buildings, at a cost of £12,500 each, should be erected in those cities. In the following year the Royal Commission repeated these recommendations.

"The Auckland University College Act, 1882," which became law on the 13th of September in that year, definitely established the Auckland University College, and endowed it with a statutory grant of £4,000 per annum. By "The Auckland University College Reserves Act, 1885," three blocks of land, containing about 10,000 acres each, and a block containing about 354 acres, which had been devoted to the purpose of promoting higher education in the Province of Auckland, became vested in the Council of University College.

The Auckland University College was affiliated to the University of New Zealand, by the Senate of the University, on the 6th of March, 1883; and on the 21st of May in the same year the College was opened by His Excellency the Governor of New Zealand, Sir William F. Drummond Jervois, G.C.M.G.

The recommendation made by the Royal Commission, that College buildings should be erected, has not been carried into effect. The building in Eden Street, which was formerly the District Courthouse, was in 1883 placed at the disposal of the College Council by the Government, for the purposes of College work. The large room of this building is formed into a lecture-hall, and additions have been made for the formation of laboratories. In "The Special Powers and Contracts Act, 1885," the Governor was empowered, when the offices then occupied by the Survey and Crown Lands Departments in Auckland should be vacated, to transfer those as well as the District Courthouse mentioned above, to the College Council. The block of land on which these buildings stand extends from Parliament Street to Beach Road, containing an area of 1 acre 11 perches. This transfer was carried into effect in the year 1890; and by an expenditure of about £1,200 of the University College funds the premises were rendered fairly suitable to the purposes of the College.

The Governing Body of the College is constituted and incorporated by the Act of 1882, and is styled "The Auckland University College Council." It consists of eleven members, two of whom are *ex officio*, viz., the Mayor of the City of

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Auckland and the Chairman of the Auckland Board of Education. The other nine form three groups, consisting of three members each, viz., three elected by the members of the General Assembly resident in the Provincial District of Auckland, three appointed by the Governor in Council, and three elected by the Graduates of the New Zealand University on the books of the College. These last three members were appointed by the Governor in Council until the College numbered thirty Graduates. Elections were made by the Graduates for the first time in 1890. One member of each group retires annually. The Minister of Education is the Visitor of the College. The Chairman of the Council is elected by the Council. The Council meets statedly at least once a month, five members forming a quorum. "The Professorial Board," which is constituted by the Act, possesses, "subject to the approval of the Council," the power of fixing the course of study and the days and hours of lectures and examinations, and prescribing the subjects of examinations for scholarships, exhibitions, and prizes; and it has, "subject to a right of appeal to the Council," a general control over the discipline of the students, the management of the library, and the direction of the College servants. It elects a Chairman annually. Each Professor or Lecturer is entitled to receive, in addition to his salary, the fees that are paid by students for attendance at his lectures.

Mr. Thomas Bannatyne Gillies, a Judge of the Supreme Court of New Zealand, presented to the College Council, in the year 1884, the sum of £3,000 (three thousand pounds), for the purpose of founding two Science Scholarships, to be called respectively the "Sinclair" and the "Gillies" Scholarship. They were so named in memory of Dr. Andrew Sinclair, uncle of the late Mrs. Gillies, and in memory of Mrs. Gillies herself. This munificent gift was forthwith utilised in the manner prescribed; but these Scholarships had to be put in abeyance for some years in consequence of the falling off in the value of the land on which the money was invested. They have now, however, been revived, and are at present of the value of £70 per annum each.

The Auckland Amateur Opera Club, in the year 1890, presented to the College Council the sum of two hundred guineas to be expended in that and the two following years for the encouragement of the study of Music. Money Exhibitions,

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accordingly, were granted, to be competed for by students attending, or about to attend, the classes of the School of Music in the College. The results were considered to be very satisfactory, but the Exhibitions ceased to exist when the two hundred guineas were expended. The Countess of Onslow, in 1891, gave two silver medals to be awarded to the most deserving of those students in the Music classes whom the Regulations excluded from competing for Exhibitions. Similar gifts were made for the years 1892, 1893, 1894.

Lady Glasgow provided similar medals for 1895, 1896, and 1897, and Lady Ranfurly continued the medals for the years 1898, 1899, 1900, 1901, 1902, 1903. At a meeting of the Council held 22nd November it was resolved that medals in the future be provided by the College out of the fees received for special musical examinations.

A valuable addition was made to the College Library on the 31st March, 1894, by the late Professor Charles Alexander Maclean Pond, who had held the chair of Classics and English from July, 1891, to October, 1893. The whole of his library, consisting of upwards of a thousand volumes, of standard English and Classical works, he bequeathed to the University College, and the books are now placed in a special press in the Library, each book being labelled as the bequest of the lamented Professor.

The Council is under great obligation to the late Mr. James McCosh Clark, who was Mayor of the City of Auckland during the years 1881, 1882, and 1883, and who, on the termination of his Mayoralty, was presented with a six-inch telescope by the citizens of Auckland as an appreciation of his public services and as a mark of the citizens' respect and esteem for Mrs. Clark, during her husband's Mayoralty. The use of this telescope has been placed at the service of the College, and it is now mounted at the top of the brick tower attached to the College building. The thanks of the College were tendered to Mr. and Mrs. Clark, for granting the use of the telescope to the College, by resolution unanimously passed by the Council on the 20th December, 1894, and similar thanks were given on the 16th November, 1896, to Mr. and Mrs. Clark for granting the College the use of a celestial globe.

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By the will of the late Mr. J. L. Sinclair, who died at Otahuhu, on 12th November, 1895, the testator bequeathed to the Auckland University College Council all such of his books as the Professorial Board of the College might consider suitable for the College Library. 580 vols. were selected and added to the Library, each book bearing a label showing that it was bequeathed to the Library by the late James Leask Sinclair.

In the year 1897, it was found necessary to provide a new Physical Laboratory at a cost of £328 4s. 6d.

On the 20th June, 1898, the Council requested the Chairman (Sir Maurice O'Rorke) to draw the attention of the Government to the insufficiency of the accommodation in the College buildings for the classes attending lectures, and to the inability of the Council to provide the requisite accommodation out of its current revenue. This application was attended with success, so that on the 28th November, 1898, the Chairman was able to report that the Government had met the application in a liberal spirit, and that £1,000 had been cheerfully voted by Parliament. The Council tendered a hearty vote of thanks to Sir Maurice O'Rorke for his successful efforts to obtain this grant. The Government further showed their liberality by permitting Mr. C. R. Vickerman, of the Public Works Department, to prepare the necessary plans and to supervise the erection of the buildings. Tenders were called for, and that of Mr. John E. Guthrie, amounting to £1,116 11s., was accepted on the 29th of March, 1899. Other additions were afterwards found to be desirable, the cost of which was defrayed out of the funds of the College, and the total amount paid to the contractor was £1,213 6s. 6d. It was agreed to spend £120 on securing proper precautions against fire, and after providing suitable furniture the total cost amounted to £1,558 5s. 1d. Since this enlargement of the building, a feeling has arisen that a more permanent building than the present wooden structure, now fifty years old, should be obtained, and a sum of £5,000 (one-fourth of the contemplated amount) was granted last year for each of the four affiliated institutions in Auckland, Wellington, Christchurch, and Dunedin. The difficulty in Auckland is the want of a suitable site, which should not be less than five or six acres. The present site is only one acre, and, being somewhat precipitous, does not admit of the easy enlargement of the College. It is the opinion of the Council that in the

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interests of the students the College should be kept within the city boundaries and not moved into the suburbs.

On 11th May, 1900, a letter was received from the Secretary of the Education Department, intimating the establishment of a Sir George Grey Scholarship in Auckland University College, and enquiring whether the Council of the College would undertake the awarding of the Scholarship for the current year (1900), on certain specified conditions. The offer was accepted, and the Scholarship was awarded accordingly. The Scholarship is to be offered year by year, and a competition for it took place last year (1905), and it was again awarded.

By an Act in 1902, the constitution of the Senate was altered by abolishing the Senate then in existence and the creation of a new Senate by the election of five members from each of the University College Districts—viz., two by each Governing Board or Council, one by each Professorial Board, and two by each District Court of Convocation. Four members are added by the Governor in Council.

In 1904, Degrees were established in Literature, Veterinary and Dental Science, Agriculture, Public Health, and Commerce.

The business of the College has been considerably enlarged during the year by the establishment of a School of Commerce and a School of Mines, and the appointment of a Lecturer on Educational matters.

In the additional estimates passed by Parliament in 1904, a sum of £1,500 per annum was voted to each of the four University Colleges. Specialities for this College are now fixed by a School of Commerce (opened last year) and by a School of Mines (to be opened early in 1906); but it must not be understood that the establishment of these special schools debars the Council from enlarging the Law School so as to qualify its students for admission to the profession of the law, nor does it debar the Council from giving one or two years' preliminary training for the medical profession. This latter school would not encroach on the Medical School at the Otago University, but would rather tend to increase the attendance of medical students there, as this College does not contemplate giving a full training for the medical profession.

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LECTURER ON EDUCATION.

Mr. Herbert A. E. Milnes, B.Sc., Lond., who has been appointed Principal of the Training College in Auckland, has also been appointed Lecturer on Education in this College, and he is to enter on his duties at the commencement of Session 1906, and as the fees of the students of Training College who attend University College Lectures with the approval of the Principal are to be paid by the Education Board, it is expected that the attendance at the College lectures will be considerably increased.

SCHOOL OF MINES.

Advertisements were inserted in newspapers in England, the United States, and Australia, as well as in New Zealand, for a Professor of Mining Engineering, and a large number of applications have been received. An appointment will be made at an early date, and lectures will be commenced as soon thereafter as circumstances permit. Full information as to the arrangements will be published in the newspapers so soon as it is available.

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College Regulations.

TERMS, FEES, ATTENDANCE AT LECTURES.

1. There shall be in each year three Terms. The First Term shall begin on the first Monday in March, and end on the tenth of May. The Second Term shall begin on the first Monday in June, and end on the tenth of August. The Third Term shall begin on the first Monday in September, and end on the tenth of November. The Easter Recess extends from Good Friday to Easter Tuesday, both days inclusive.

2. The fees for lectures shall be ten shillings per Term for a course occupying one hour per week, one pound per Term for a course occupying two hours per week, and so on proportionally. For laboratory instruction the fees shall be ten shillings per term for one half-day per week, one pound per term for two half-days per week, and so on proportionally. Provided that attendance at a course of lectures during the First and Second Terms shall entitle to exemption from payment of fee for attendance at a course of lectures on the same subject and not occupying a greater amount of time per week during the Third Term; and similarly as to attendance in laboratory. The Laboratory Fee for Honours Students in Science is £2 per Term or £4 per Session.

3. On payment of the fee at the office of the College a ticket of admission shall be issued, which must be countersigned by the Professor, or Lecturer. All fees must be paid within fourteen days from the commencement of the Term; if not paid, the student is liable to a fine of 2s. 6d. per month, or part of a month, for each subject. The first lecture of every course will be free.

4. Admission to lectures or laboratories shall not be restricted to undergraduates, that is to say, matriculated students, but shall be open to all persons who have complied with the preceding Regulation No. 3.

5. Each Professor and Lecturer shall keep a roll showing the number and names of the students present at each lecture, which rolls are to be preserved for reference. These rolls the Professors are requested to hand in to the Registrar the day before each Council meeting.

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ANNUAL EXAMINATION.

6. The Annual Examination shall be held in the last part of the Third Term, at such time approved by the Council, as will allow the publication of the complete results by the last day of the Term.

7. Every student who shall have attended the full course of lectures during at least two Terms of the year, shall be entitled to be examined at the Annual Examination in that subject, without payment of any examination fee.

8. A fee of one guinea shall be paid for the Annual Examination in each subject which the candidate shall select, and on which he shall not have attended lectures. Students who are examined out of Auckland are required to pay an extra fee of half-a-guinea for each subject on which they are examined, to be paid to the Registrar at least ten days before the commencement of the Examination; but when at any place of examination only one student is examined, the extra fee shall be one guinea for each subject in which such student shall be examined.

9. All candidates for the Annual Examination must give in their names and the examination fees due (if any) to the Registrar on or before the first day of October in each year; but names may be received by the Registrar up to the eighth day of October in each year on payment of a fine of half-a-guinea.

10. As soon as practicable after the Annual Examination, there shall be published a list of undergraduates who have kept the Terms of the year, and also lists of those persons who have passed the examinations in the several subjects respectively. In each subject there shall be three classes, the First Class being the highest. In the First and Second Classes the names shall be arranged in order of merit; in the Third Class in alphabetic order.

THE KEEPING OF TERMS.

(N.B.—The following Regulations apply to undergraduates who desire to keep Terms with a view to examination by the University of New Zealand.)

11. Undergraduates shall be held to have kept Terms for the year in any subject who shall have *(a)* attended during the year at least three-fourths of the prescribed lectures, *and (b)* passed the Annual Examination in that subject.

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The following are the subjects in which Terms may be kept:—

1. Latin
2. Greek
3. English
4. French
5. German
6. Hebrew
7. General History and Political Economy
8. Jurisprudence and Constitutional History
9. Pure Mathematics
10. Applied Mathematics
11. Physical Science
12. Chemistry
13. Biology
14. Geology
15. Mental Science
16. Music

12. *(1)* Undergraduates must, to complete their first year, keep Terms in three subjects. For their second year they must offer for examination such subjects as they intend to take for the first section of their Degree, but may be credited with the year by keeping Terms in three such subjects For their third year they must keep Terms in such subjects as they intend to take to complete their Degree.

(2) Graduates proceeding to another Degree, if required by University Statute to keep an additional year's Terms, must keep those Terms in such subjects as are necessary to complete that Degree.

(3) But students exempted by University Statute from attendance upon lectures shall be credited with their Terms if they shall have passed the examination for the year in the required subjects.*

13. Every student intending to present himself for any University Examination for a Degree, other than the Degree of Bachelor of Medicine, or any of the professional branches of the

* For students exempted by University Statute from attendance upon lectures, see University Calendar, Statutes "Terms and Lectures," chap. vi., reg. iii.

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Degree of Bachelor of Science, shall, when he signifies to the Chancellor the subjects in which he elects to be examined, forward a duplicate of such notice to the Registrar of Auckland University College.

14. Students who intend to present themselves for examination in Physical Science, or in Biology, Geology, or Chemistry, must produce evidence that they have in the same, or a previous year, gone through, to the satisfaction of the Professor, a course of practical work in the subject.

REGULATIONS RESPECTING THE COLLEGE LIBRARY

15. The Assistant Librarian will attend daily for the purpose of students borrowing and returning books during Term time from 10 a.m. till 12 noon, and 4 p.m. till 6 p.m.; during vacation from 10 a.m. to 12 noon. Books are to be taken out only at the times specified. During Term the Library will be open to students for the purpose of reading till lectures close.

16. A Catalogue of the books shall be kept on the table.

17. No person shall make any mark in or upon any book, or fold down a leaf, or otherwise deface any book belonging to the Library. No one shall lay the paper on which he is writing on the book he is using.

18. All members of the Auckland University College shall be permitted to use the Library, but the privilege of taking out books shall be reserved for members of the Council, Professors, Lecturers, Graduates and Students attending Lectures.

19. All books, except such as may be specially reserved, may be taken out of the Library; but no person shall have in his possession more than two volumes at a time. Persons who retain a book for more than fourteen days shall be liable to a fine of threepence per day, or portion of a day, for each day for which it is retained beyond that period. But students who have not paid any fines due by them are not permitted to take books out of the Library.

20. Text-books prescribed for the current year shall in no case be removed from the Library.

21. Before removing a volume, the Assistant Librarian shall enter in a book to be kept in the Library, the name of the borrower, the title of the volume, and the date of removal. The

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borrower shall be responsible for its safe return, or, in the event of damage or loss, shall be liable to replace it at his own cost.

22. A notice-book shall be provided in the Library, in which a student desirous of obtaining a book already in circulation may enter his name and the title of the book desired. No person on returning a volume to the Library shall borrow it for a second period, unless he shall have satisfied himself by reference to the notice-book that the volume is not otherwise required.

MISCELLANEOUS.

23. The Calendar shall be distributed *free* to all matriculated students who are attending lectures, but to all others a charge shall be made of one shilling.

24. Students may obtain the use of a locker for the Session on payment of 1s. per annum to the Registrar.

25. Students are not permitted to use the telephone except with consent asked and obtained from the Registrar, and messages for students transmitted through the telephone are not to be delivered.

PREMIUMS.

26. There shall be awarded, after the Annual Examination, ten Premiums of the value of three guineas each, consisting of books or scientific instruments, in the following subjects:—

Latin
English
Pure Mathematics
Applied Mathematics
Chemistry
Physics
Biology
Geology
French
Jurisprudence and Constitutional History

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27. In each subject the Premium shall be open for competition to first and second years' students in that subject; and it shall be awarded to the student recommended for the prize by the examiner, who in making the recommendation shall take into consideration the attendance, conduct, and progress of the student, as well as the number of marks gained at the examination.

28. Each prize-winner shall be allowed to select, subject to the approval of the Examiner, the books or scientific instruments to be received as a Premium; and if the cost exceed three guineas, the excess shall be defrayed by the student.

29. Each prize volume shall be well bound and stamped with the College Arms, and shall be distinctly labelled according to the subject in which it shall be awarded. Each scientific instrument awarded shall bear a suitable inscription.

30. If a student wins any of the above prizes in his or her First Year, such student shall not be allowed to win that prize or prizes in the Second Year, but may compete for a prize of a different denomination.

31. Only students who have attended lectures can have Premiums, Medals, or other prizes awarded to them.

PRIZES IN EARLY ENGLISH.

32. The Early English Text Society have offered for competition each year certain volumes of their publications. These books will be awarded on the results of an examination to be held early in the Third Term by the Professor of English Language and Literature. Students are required to notify to the Registrar their intention of competing for these prizes before the end of the Second Term.*

* For course see Syllabus.

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REGULATIONS FOR THE SIR GEORGE GREY SCHOLARSHIP, 1906.

1. That the Council of the Auckland University College undertakes to award the Grey Scholarship for the current year (1906) upon the conditions prescribed in the letter of the Secretary of Education dated 11th May, 1900.

2. That the Scholarship be of the value of £50.

3. That the Scholarship be kept distinct from all other Scholarships by having a Special Examination by the Professors concerned in all the subjects taken up by the Candidates.

4. That the subjects of Examination shall be chosen from the following:—

1. Heat, Sound, and Light.
2. Electricity & Magnetism.
3. Astronomy.
4. Geology.
5. Botany.
6. Zoology.
7. Pure Mathematics.
8. Mechanics and Hydrostatics
9. Chemistry.

Of these a candidate may choose any three, but must take up one at least of subjects 1, 2, 3, 4.

5. That the Scholarship be open to all Students of this College who have not completed their third academical year on 1st October, 1906.

6. That the Scholarship be awarded upon an examination to be held at the end of the academic year 1906.

7. That the winner of the Scholarship must keep terms in this College during the Session of 1907 and pass the Annual Examination.

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8. That the Scholarship be not tenable with any other scholarship or exhibition.

9. That the holder of the Scholarship shall be entitled to payment of one-third of the Scholarship at the end of the first and second terms, and at the end of the third term and the passing of the Annual Examination, on production of a certificate from the Professors under whom he or she shall have studied of diligent attendance, good conduct, and satisfactory progress in studies. Failing such certificate or an adverse report from the Professors, the Council may cancel the Scholarship, the money forfeited to be reserved for future Grey Scholarships.

10. That Candidates give notice to the Registrar on or before 1st October next of the subjects they propose to take up.

REGULATIONS RESPECTING GILLIES SCHOLARSHIP.

1. The Gillies Scholarship to be competed for in the year 1906 is of the annual value of £70, and is tenable for three years. It was founded for the encouragement of the study of Chemistry and Physics.

2. This Scholarship is open to all persons, male or female, born in the Colony of New Zealand, who at the time of examination shall be between the ages of sixteen and twenty years, and who have not kept Terms or attended Lectures, or held a Scholarship in any University or College, and who shall satisfy the Council of the College that neither they nor their parents or guardians can obtain for them a University education without pecuniary aid. The holder of this Scholarship will not be allowed to hold concurrently a Junior University Scholarship.

3. Candidates, when giving notice of intention to compete, should forward (1) certificate of birth-place and age, and (2) a declaration to the following effect:—

> I, A——— B———, do solemnly and sincerely declare, that neither I nor my parents or guardians can afford the expense of a University education for me without pecuniary assistance, and that I desire to obtain such an education.
>
> (Signed) A——— B———

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This certificate must be accompanied by a declaration from a Clergyman or Stipendiary Magistrate of the district in which the parents or guardians reside that to the best of his knowledge and belief the statement in the certificate is correct.

4. Candidates for the Gillies Scholarship will be examined in (1) Pure Mathematics, (2) Heat or Electricity and Magnetism, (3) Organic Chemistry, and will be required to write an English Essay on a subject selected by the Examiners.

The standard of the Examination will be the same as that for the Junior Scholarships of the University of New Zealand.

Special weight will be given to attainments and capacity in Physics and in Chemistry.

5. The Examiners shall be entitled to certify to the Council that no sufficiently qualified candidate has appeared, whereupon the Council may decline to award the Scholarship.

6. The successful candidate will be required to keep Terms at the Auckland University College, and to carry on the studies for the encouragement of which the Scholarship was founded.

7. The holder of the Scholarship shall be entitled to payment of a proportionate amount of his Scholarship at the end of each collegiate Term, on production of a certificate from the Professors under whom he shall have studied, of diligent attendance, good conduct, and satisfactory progress in studies. Failing such certificate, or an adverse report from the Professors, the Council may cancel the Scholarship.

8. The Examination will be held at Auckland, Wellington, Christchurch, and Dunedin, about the end of October, and the names of candidates must be given in to the Registrar on or before the 1st day of that month.

REGULATIONS RESPECTING SINCLAIR SCHOLARSHIP.

1. The Sinclair Scholarship to be competed for in the year 1908 is of the annual value of £70, and is tenable for three years. It is founded for the encouragement of the study of Biological Science.

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2. This Scholarship is open to all persons, male or female, born in the Colony of New Zealand, who at the time of examination shall be between the ages of sixteen and twenty years, and who have not kept Terms or attended Lectures or held a Scholarship in any University or College. and who shall satisfy the Council of the College that neither they nor their parents or guardians can obtain for them a University education without pecuniary aid. The holder of this Scholarship will not be allowed to hold concurrently a Junior University Scholarship.

3. Candidates, when giving notice of intention to compete, should forward (1) certificate of birth-place and age, and (2) a declaration to the following effect:—

> I, A——— B———, do solemnly and sincerely declare that neither I nor my parents or guardians can afford the expense of a University education for me without pecuniary assistance, and that I desire to obtain such an education.
>
> (Signed) A——— B———
>
> This certificate must be accompanied by a declaration from a Clergyman or Stipendiary Magistrate of the district in which the parents or guardians reside that to the best of his knowledge and belief the statement in the certificate is correct.

4. Candidates for the Sinclair Scholarship will be examined in Mathematics and in any two of the following subjects (*a*) Botany, (*b*) Animal Physiology, (*c*) Physical Geography, and will be required to write an English Essay on a subject selected by the Examiners.

> The standard of the Examination will be the same as that for the Junior Scholarships of the University of New Zealand.
>
> Special weight will be given to attainments and capacity in Animal Physiology and Botany.

5. The Examiners shall be entitled to certify to the Council that no sufficiently qualified candidate has appeared, whereupon the Council may decline to award the Scholarship.

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6. The successful candidate will be required to keep Terms at the Auckland University College, and to carry on the studies for the encouragement of which the Scholarship was founded.

7. The holder of the Scholarship shall be entitled to pay ment of a proportionate amount of his Scholarship at the end of each collegiate Term, on production from the Professors under whom he has studied of a certificate of diligent attendance, good conduct, and satisfactory progress in studies Failing such certificate, or an adverse report from the Professors, the Council may cancel the Scholarship.

8. The Examination will be held at Auckland, Wellington, Christchurch, and Dunedin, about the end of October, and the names of candidates must be given in to the Registrar on or before the 1st day of that month.

RHODES SCHOLARSHIPS.

Under the will of the Right Hon. Cecil John Rhodes, certain Scholarships have been established at Oxford for students from the Colonies and the United States of America. These are of the yearly value of £300, and are tenable for 3 years. The number of Scholarships allotted to the Colonies is 60, and of these, 3 are allotted to New Zealand. Two Scholarships (or 100 in all) have been appropriated to each of the States and territories of the United States of North America. In New Zealand one Scholarship is to be filled up each year. In the election of a student to a Scholarship, regard shall be had (1) To his literary and scholastic attainments; (2) His fondness of and success in manly outdoor sports; (3) His qualities of manhood, truth, courage, devotion to duty, sympathy for the protection of the weak, kindliness, unselfishness, and fellowship; and (4) His exhibition during school days of moral force of character, and of instincts to lead and to take an interest in his schoolmates, for these latter attributes will be likely in after life to guide him to esteem the performance of public duties as his highest aim.

Regulations have been issued by the Trustees nominated by Mr. Rhodes, viz., Earl of Rosebery, Earl Grey, Lord Milner, Mr. Alfred Beit, Dr. Leander Starr Jameson, Mr. Lewis Loyd

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Mitchell, and Mr. Bourchier Francis Hawksley, and are to be found in the Calendar of the University of New Zealand. Copies of these regulations may be had on application to the Registrar of the University of New Zealand

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SYLLABUS OF LECTURES.

LATIN (Professor H. A. Talbot-Tubbs).

The following courses will be delivered during the session:—

Translation.—Lectures on the prescribed books:—Livy, *Book VIII.*; Vergil, *Aeneid, Book VI.* The courses will be given in this order.

Hours of Lectures—Monday and Thursday, 6—7 p.m.

Composition.—There will be two classes, Junior and Senior. The Junior Course will deal with the Syntax of the sentence, and will lead up to continuous prose through the rendering of English Idiom. It is intended for those who have not previously received a sufficient grounding in Syntax and Idiom. In the Senior Course, continuous prose will be so treated as to illustrate the several Latin styles, and the standard of difficulty will be that of the B.A. pass examination, but the lectures of the first term will be of a less advanced kind.

Hours of Lectures—Junior Course, Monday, 7—8 p.m.; Senior, Thursday, 7—8 p.m.

"*Honours*" and M.A. Lectures, and the hours of their delivery, are subject to special arrangement. Intending Students are requested to call at an early date.

GREEK (Professor H. A. Talbot-Tubbs).

The following courses will be delivered:—

Translation.—Lectures on the prescribed books:—Xenophon, *Memorabilia, I. and II.*; Euripides, *Hecuba.*

Hours of Lectures—Tuesday and Thursday, 11 a.m.—12 noon

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Composition.—Lectures will be tutorial. Sidgwick's "Greek Prose Composition" will be used as a Text-book.

Hour of Lecture—Tuesday, 10—11 a.m.

"*Honours*" Lectures are subject to special arrangement. Intending students are requested to give in their names *as early as possible.*

ENGLISH LANGUAGE AND LITERATURE.

(PROFESSOR EGERTON.)

ENGLISH LITERATURE.

The following courses of Lectures will be delivered in the Session of 1906 :—

I.—The History of English Literature during the Reign of Elizabeth. The subject will be treated in the following order :—

(*a*) General Introduction to the Period. Literary Influences of the Age.

(*b*) Non-dramatic Poetry. Development of the Lyric. Narrative Poetry. Satire and Didactic Verse.

(*c*) The Drama. Its rise in England—Classical Influences—Growth of the Romantic Drama. The Early Romantic School (Peele, Greene, Marlowe). Shakspere and his Contemporaries.

(*d*) Prose. Evolution of the English Prose Romance. Didactic Prose (Ascham, Hooker, Bacon). The Chroniclers. Translations.

Text-books recommended :—

Morley's *First Sketch of English Literature*, or
The Student's Manual of English Literature.
Dowden's *Shakspere Primer.*
The Age of Shakspere (Bell).

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Further information as to texts, critical articles, and biographies will be given in lectures.

Hours of Lectures—Wednesday, 3—4 p.m. and 7—8 p.m. The evening lecture is a repetition of that delivered in the afternoon.

II.—Courses of Lectures will be delivered on the following subjects :—

First Term : The Novels of George Eliot, with special reference to *Romola*, which will be studied in detail.

Second Term : Shakspere's *King Lear* (Clar. Press).

Third Term : Shakspere's *Tempest* (Clar. Press).

From time to time, students who desire to keep terms will be required to write essays upon subjects arising out of the above works, and instruction in English Composition will be given in connection therewith.

Hours of Lectures—Thursday, 12 noon—1 p.m. ; Saturday, 9—10 a.m. The latter Lecture is a repetition of the former.

English Language.

III.—The Origin, Structure, and History of the English Language.

Text-books.—*The Anglo-Saxon Primer* (Sweet). *Specimens of Early English*, Part II. (Morris and Skeat). *Historical Outlines of English Accidence* (Bradley and Kellner). Those who require a more elementary text-book of English Philology are recommended to procure Skeat's *Primer of English Etymology*, or Lowe's *English Language*.

Hours of Lectures—First Year, Tuesday, 6—7 p.m. ; Second Year, Tuesday, 7—8 p.m.

Honours Course.

The course for Honours and M.A. usually requires at least two years' reading. Undergraduates who intend to read for

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Honours or Scholarships are recommended to communicate to the Professor as early as possible their intention of so doing.

Hours of Lectures (subject to alteration by arrangement)—Monday, 3—4 p.m.; Wednesday, 11 a.m.—12; Thursday, 3—5 p.m.

Early English Text Society's Prize.

The Early English Text Society has offered as a prize, open to those attending lectures at Auckland University College, three volumes of its publications. The books are valuable reprints of Early English Texts.

The examination papers will be set by the Professor of English Language and Literature on the following course:— Elements of Anglo-Saxon Grammar, Sweet's *Anglo-Saxon Reader*, Morris and Skeat's *Specimens of Early English* (Parts I. and II.)

PURE MATHEMATICS (Professor Segar).

Elementary.

Lectures.—The elementary lectures treat the subjects to the ordinary standard required for the various Bachelor degrees.

Hours of Lectures:—

(i.) *Algebra*—Wednesday, 5—6 p.m., and Friday, 6—7 p.m.

(ii.) *Trigonometry*.—Saturday, 10—11 a.m.

(iii.) *Geometry*.—Saturday, 11 a.m.—12 noon.

Tutorial Classes.—Subject to the approval of the Professor, such students as have previously obtained at least a good Second Class in the Annual Examination, or can otherwise show that they have reached this standard, may take Tutorial Classes instead of the lectures.

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Students for whom tuition additional to that afforded by the lectures is necessary or advisable may also attend these classes.

Hours of Classes.—To be arranged.

ANNUAL EXAMINATION.—To pass the Annual Examination for the keeping of terms, *Candidates for a Second or Third Year's Terms will be expected to reach a higher standard than candidates for a First Year's Terms.* The papers will include certain questions, answers to which will not be expected in order to qualify for any of the several classes, but credit will be given for these in assigning the order of merit.

ADVANCED.

Lectures on the more advanced parts of Mathematics will be arranged according to requirements.

The following are the courses offered:—

HIGHER B.A. AND B.SC. STANDARDS.—(1) Modern Plane Geometry, including the Conic Sections; Algebra; Trigonometry; Plane Analytical Geometry; and the more elementary portions of the Differential and Integral Calculus; or (2) Conic Sections; Plane Analytical Geometry; Differential and Integral Calculus; and Elementary Ordinary Differential Equations.

HONOURS.—Students reading Mathematics for the M.A. or M.Sc. Degree should generally take:—

First Year.—Modern Plane Geometry, including the Conic Sections; Algebra; Trigonometry.

Second and Third Years.—Analytical Plane Geometry; the earlier parts of Analytical Solid Geometry; the more elementary portions of Differential and Integral Calculus.

Fourth Year.—Differential and Integral Calculus; Analytical Solid Geometry; Differential Equations.

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APPLIED MATHEMATICS (PROFESSOR SEGAR).

ELEMENTARY.

LECTURES.—Mechanics will be treated during the first Two Terms, and Hydrostatics during the Third Term, each to the ordinary standard required for the B.A. and B.Sc. Degrees.

Hours of Lectures.—Wednesday and Friday, 8—9 p.m.

TUTORIAL CLASSES.—As under Pure Mathematics.

ANNUAL EXAMINATION.—As under Pure Mathematics.

ADVANCED.

Lectures on the more advanced parts of Applied Mathematics and Mathematic Physics will be arranged according to requirements.

The following are the courses offered:—

HIGHER B.A. AND B.SC. STANDARD.—Mechanics and Hydrostatics more fully treated than in the elementary lectures.

HONOURS.—Students reading Mathematical Physics for the M.A. or M.Sc. Degree should generally take:—

First Year.—Mechanics and Hydrostatics to the ordinary B.A. and B.Sc. Standard.

Second and Third Years.—Mechanics and Hydrostatics to the higher B.A. and B.Sc. Standard.

Fourth Year.—Mechanics treated analytically; Geometrical Optics; Spherical Astronomy.

CHEMISTRY (PROFESSOR BROWN).

GENERAL COURSE.

The characteristics of chemical action—The laws of chemical combination—The atomic theory—Atomic weights and chemical symbols—Empirical, rational and constitutional formulæ—The

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physical and chemical properties and the modes of preparation of the more important elements and of their chief compounds including simple carbon compounds.

Hour of Lectures—Monday and Thursday, 5 p.m.

Advanced Course.

A course of lectures on Chemistry of a more advanced character will also be given, and will deal more especially with theoretical chemistry. The subjects treated will include the determination of molecular and of atomic weights, the classification of the elements and the periodic law, and the relations between heat, light, and electricity, and chemical action.

Hour of Lecture—Monday, 3 p.m.

CHEMICAL LABORATORY.

The Laboratory will be open on Tuesdays from 2 p.m. to 5 p.m., on Thursdays from 10 a.m. to 1 p.m., on Fridays from 6 p.m. to 9 p.m, and on Saturdays from 10 a.m. to 1 p.m.

Instruction will be given in the laboratory in all branches of Practical Chemistry, including qualitative and quantitative inorganic and organic analysis, and the preparation of chemical products.

Special facilities will be afforded to those who desire to study Practical Chemistry, as applied to different processes employed in the arts and manufactures.

All apparatus, gas, fuel, and ordinary reagents will be provided by the College; but a deposit of 10s. will be required from each student, to cover the cost of loss and breakage.

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EXPERIMENTAL PHYSICS (PROFESSOR BROWN).

SESSION 1906.

HEAT, SOUND, AND LIGHT.

FIRST TERM—HEAT.

Introductory—Methods of measurement employed in Physics—Thermometers and pyrometers—Expansion of solids, liquids, and gases—Absolute temperature—Application of the laws of expansion.

Phenomena of fusion, crystallisation, evaporation and ebullition.

Hygrometry—Modes of measuring the hygrometric condition of the atmosphere.

Conduction, radiation, and absorption of heat.

Calorimetry, specific and latent heats—The elements of thermodynamics.

SECOND AND THIRD TERM—SOUND AND LIGHT.

Sensation and external cause of sound—Mode of its transmission—Velocity of sound—Elements of a musical sound—Loudness and extent of vibration—Pitch and rapidity of vibration—Motion of sounding strings—Motion of sounding air columns—Resonance—Analysis of compound sounds—Interference—Beats—Consonance and dissonance.

Nature, production, and propagation of Light—The laws of reflection and refraction at plane and spherical surfaces—Prismatic dispersion and spectra—Interference—Double refraction and plane polarisation—The principal optical instruments and vision.

Hour of Lectures—Tuesday and Friday, at noon.

SESSION OF 1907.

MAGNETISM AND ELECTRICITY.

FIRST TERM.

Introductory—Methods of measurement employed in Physics.

Magnetism—Magnetic attraction and repulsion—Magnetic induction—Measurement of magnetic forces—Terrestrial magnetism.

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Frictional electricity—Fundamental experiments of attraction and repulsion—Phenomena of induction—Electrical machines—Condensers—Measurements of potential, capacity, and quantity Electrometers. Atmospheric Electricity.

SECOND AND THIRD TERMS.

Current electricity— Mutual action of magnets and currents —Galvanometers—Electrolysis—Thermal effects of the electric current—Resistance—Measurements of current, of resistance, and of electromotive force.

Production of electric currents—The Voltaic cell—Thermo-electric currents—Induced currents—Magneto-electric and dynamo electric machines.

Application of electricity to lighting, signalling, and the transmission of power.

Hour of Lectures—Tuesday and Friday, at noon.

Note.—The course of instruction in Physics extends over two years; but the arrangement is such that students may begin the study of Physics in any year.

PHYSICAL LABORATORY.

Practical instruction in Physics will be given in the Laboratory, which will be open on Tuesdays from 2 p.m. to 5 p.m., on Thursdays from 10 a.m. to 1 p.m., on Fridays from 6 p.m. to 9 p.m., and on Saturdays from 10 a.m. to 1 p.m.

EXPERIMENTAL PHYSICS.

EVENING COURSE.

In addition to the above lectures on Physics, a course on the same subjects, but dealing with them more briefly, will be given in the evening. These lectures are intended to afford an opportunity of acquiring a knowledge of Physics to students who are occupied in teaching or in business during the day. Students who are not so occupied are advised to attend the day course.

Hour of Lecture—Tuesday, 8 p.m.

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BIOLOGY (PROFESSOR THOMAS).

1. GENERAL BIOLOGY.

Students who take either Botany or Zoology for the B.A. or B.Sc. degree of the New Zealand University, are required to show a knowledge of the elements of General Biology, that is, of the general phenomena of life. The present course of lectures is intended to cover the ground of the paper in General Biology, and will include the following subjects:—

Structure, physiology, and life-history of a small number of typical organisms, so selected as to illustrate the general principles of Biology—Theory of Evolution—Geographical Distribution of living beings—The Geological Record.

Hour of Lecture—Wednesday, 6 p.m.

Text-books—Parker, *Elementary Biology;* Marshall, *The Frog.*

2. BOTANY.

Students who take Botany for the B.A. degree should attend the three courses—*(a)* General Biology, *(b)* Junior Botany, *(c)* Senior Botany. The three courses may be taken in one year, but any student who can devote two years to the subject should defer attendance at the Senior Botany until the second year.

JUNIOR COURSE.

The form and structure of flowering plants—Fertilisation of flowers—Dispersion of seeds—The more important orders of native and introduced flowering plants.

Hour of Lecture—Tuesday, 7 p.m.

SENIOR COURSE.

The principal characters of the classes of plants—The structure, physiology, and life-history of the prescribed types of plants for the Bachelor of Arts degree.

Hour of Lecture—Monday, 7 p.m.

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Text-books—Either Strasburger's *Text-book of Botany*, or Vines' *Elementary Text-book of Botany*. Students taking the Senior Course will require also Scott, *Structural Botany*; Bower, *Practical Botany for Beginners*.

HONOURS COURSE.

Special arrangements will be made for students reading Botany for Honours.

3. ZOOLOGY.

The principal characters af the chief classes of animals—The structure and life-history of examples of the most important groups of animals—The elements of comparative embryology.

Hour of Lecture—Monday, 12 noon.

Text-books—J. A. Thomson, *Outlines of Zoology;* Marshall and Hurst, *Practical Zoology*.

BIOLOGICAL LABORATORY.

The Laboratory will be open during the following hours:—Monday, 2 p.m. to 5 p.m.; Wednesday, 6 p.m. to 9 p.m.; Wednesday and Saturday, 10 a.m. to 1 p.m.

Classes will be formed for the practical work in Botany or Zoology required for the Bachelor of Arts or Bachelor of Science degree, or for the Medical Intermediate Examination. The days of the classes will be arranged to suit the convenience of students, and must then be adhered to.

Facilities will be offered to persons not preparing for examinations, but who desire to learn the use of the microscope and methods of studying plants and animals.

NOTE.—Special aid will be given to those who desire to learn the use of the microscope and the applications of biology in the arts and manufactures.

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SYLLABUS OF LECTURES.

GEOLOGY (PROFESSOR THOMAS).

The ordinary course of instruction for students who take Geology for the B.A. or B.Sc. degree, is completed in one year, and includes two lectures weekly and attendance at the Laboratory twice a week. Those, however, who desire to do so, may spread the practical work over two years, attending once a week.

LECTURES.

Crust of the earth—Rocks and minerals—The geological action of the air, water, ice, and living organisms—Volcanoes and volcanic action—Earthquakes—Metamorphism—Secular movements of the crust.

Architecture of the earth's crust.

Palæontology—Fossils and their uses—General structure of the classes of plants and animals found in the fossil state—Generalisations of Palæontology and their bearing on the theory of Evolution.

Chronological classification of rocks—Geological eras and periods—Geology of New Zealand—The characteristic features of the Geological periods.

Hour of Lectures—Tuesday and Friday, 5 p.m.

Text-books—Geikie's *Class-book of Geology*, or Geikie's *Text-book of Geology*; Wood's *Elementary Palæontology*.

GEOLOGICAL LABORATORY.

The Laboratory will be open during the following hours:—Monday, 2 p.m. to 5 p.m.; Wednesday, 6 p.m. to 9 p.m.; Wednesday and Saturday, 10 a.m. to 1 p.m.

Practical instruction will be given in the following subjects:—The properties and identification of minerals—Rock-forming minerals—Characters of rocks—Structure of typical genera of fossil plants and animals—Characteristic fossils of the geological periods.

Excursions will be arranged for the study of Field Geology.

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FRENCH (MAXWELL WALKER, M.A.)

The following courses will be delivered during the session of 1906:—

I.—TRANSLATION:—

(*a*) Lectures on the following prescribed works—

Racine—*Andromaque.*
Athalie.
Bossuet—*Oraisons funèbres.*

Hour of Lecture.—Monday, 5—6 p.m.

(*b*) Sight Translation.—Lectures will be given fortnightly, alternating with lectures on period of literature.

Hour of Lecture.—Friday, 5—6 p.m.

II.—COMPOSITION:—

(*a*) *Junior.*—Intended for students who have not had sufficient practice in ~~continuous~~ French prose.

Hour of Lecture.—Wednesday, 6—7 p.m.

(*b*) *Senior.*—In this class, passages are set each week, the standard of difficulty rising gradually until, in the second term, it reaches that of the B.A. Pass Examination.

Hour of Lecture.—Thursday, 5—6 p.m.

III.—THE HISTORY OF FRENCH LITERATURE between the years 1501 and 1600. These lectures alternate with the lectures on sight translation.

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Text-books recommended.—Saintsbury's "Short History of French Literature," and Kastner and Atkins' "Short History of French Literature."

Hour of Lecture.—Friday, 5 to 6 p.m.

IV.—PRONUNCIATION.— Lectures on French Pronunciation to suit the requirements of the B.A. Degree will be given on Tuesdays, at 5—6 p.m.

V.—COMMERCIAL FRENCH.—Lectures to meet the requirements of the Degree of Bachelor of Commerce will be delivered during the year. For further information see pages 51-52.

Hours of Lecture.—Monday, 6—7 p.m, and Thursday, 7—8 p.m.

VI.—"HONOURS" AND SCHOLARSHIP COURSES.—These are subject to special arrangement. At present the hours of lectures are Tuesday, 10—11 am., and Saturday, 10 a.m to 12 noon.

Students who intend to read for "Honours" or Scholarships should communicate with the Lecturer as early as possible.

GERMAN (MAXWELL WALKER, M.A.)

The following courses will be delivered during the session :—

I.—TRANSLATION.—Lectures on the following prescribed works : —

Lessing—*Minna von Barnhelm.*
Goethe—*Faust* (Part I.)

Hour of Lecture.—Friday, 6—7 p.m.

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II.—COMPOSITION.—Passages graded up to the standard of the B.A. Examination are set week by week.

Hour of Lecture.—Tuesday, 6—7 p.m.

NOTE.—A Junior Preparatory Class is formed from time to time as required.

III.—THE HISTORY OF GERMAN LITERATURE.

Hour of Lecture.—Wednesday, 5—6 p.m.

IV.—COMMERCIAL GERMAN.—Lectures to meet the requirements of the Degree of Bachelor of Commerce will be delivered during the year. Further information may be obtained from pages 51-52.

Hours of Lecture.—Thursday, 6—7 p.m., and Friday, 7—8 p.m.

Text-book recommended.—Hein and Becker's "Commercial German," 2 vols.

V.—"HONOURS" AND SCHOLARSHIP COURSES.—Subject to special arrangement.

N.B.—Provision will also be made for conversation and sight translation.

JURISPRUDENCE AND CONSTITUTIONAL HISTORY

(DR. BAMFORD).

The course will embrace the following subjects:—

(a) JURISPRUDENCE:—

Text-books.—T. E. Holland's "Jurisprudence," Hunter's "Introduction to Roman Law."

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To be consulted.—Maine's "Ancient Law" and (2nd Year Students) Austin's "Jurisprudence," students' edition

Hour of Lecture—Monday, 8—9 p.m.

(b) CONSTITUTIONAL HISTORY:—

Text-books.—Feilden's "Short History of the Constitution," Thomas' "Leading Cases in Constitutional Law."

To be consulted.—Taswell-Langmead's "Constitutional History."

Hour of Lecture - Thursday, 8—9 p.m.

(Hours of Lectures are subject to alteration.)

LAW (DR. BAMFORD).

The course will embrace the following subjects:—

(a) CONTRACTS:—

Text-book.—Anson's "Law of Contracts."

Hour of Lecture.—Tuesday, 5—6 p.m.

(b) EQUITY:—

Text-books.—Snell's "Equity" and Blyth's "Analysis of Snell's Equity."

Hour of Lecture.—Friday, 5—6 p.m,

The standard will be that required for the final LL.B. and Solicitors' Professional Examination.

(Hours of Lectures are subject to alteration.)

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SCHOOL OF COMMERCE.

The Degree of Bachelor of Commerce can be obtained by passing two examinations: the first not less than two years after matriculation, the second not less than one year after the first.

Candidates for the Degree must have matriculated; and those who have not passed matriculation in Algebra and Geometry must pass in those subjects before completing the first examination.

Each examination includes six subjects, or twelve subjects in all for the Degree. At the option of Candidates, two subjects of the first section may be taken at the end of the first year after matriculation, leaving four for the end of the second year.

The subjects for the First examination are—

(a) French or German, as for B.A. Degree.

(b) History—General, from 1760 to 1890.

(c) Geography (two papers).—Physical and commercial—dealing with production and distribution of commodities, trade routes, distribution of industries.

(d) Economics (two papers), as for B.A. Degree—including general economic principles, industrial organisation, land tenure, taxation, money, credit, banking, foreign exchanges, international trade, State regulation of labour, functions of government.

(e) Mathematics.—Algebra, as for the B.A. Degree.

Or one of the following—

Physics, as for the Intermediate Medical Examination.

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Inorganic Chemistry, as for the Intermediate Medical Examination.

Physical Geology, as for the B.A. Degree.

(f) Accounting (two papers)—The Lectures on Accounting and Accountancy will embrace a complete exposition of office practice upon the most modern lines, in which all commercial terms will be defined and forms illustrated. All operations in connection with the Purchase and Sale of Goods will be dealt with in detail, including Indenting, Shipping, Customs, Costing, Invoicing and Settlement, Bills, Cheques, P.N.'s, etc.

The Lectures on Book-keeping by Single and Double Entry will also have reference to new systems called Perpetual or Looseleaf Ledgers, Card Systems, Audit Checks, etc. Cable Code Practice and various methods of Consignment Accounting will receive special attention, also Company Working and Book-keeping, Auditing and Statistical Accountancy.

The Lectures will be based upon the results of actual experience and will be of a thoroughly practical nature. Text-book recommended—Adgie's "Book Keeping," parts 1, 2, 3.

The subjects for the Second examination are—

(a) Commercial Law.

(b) Statistical Method.

(c) Commercial French and German.

(d) Accountancy or Algebra, or one of the sciences not taken previously.

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(e) and (f) Any two of the following—

(1) Actuarial Mathematics.

(2) Industrial Law.

(3) Economic History.

(4) Currency and Banking.

The subjects of this Course have not yet been defined by the University Senate, but Lectures will be delivered during the current session as follows:—

COMMERCIAL LAW.

This will include—

(1) General principles of the Law of Contract, with special attention to Negotiable Instruments, Companies, Partnership, Agency, Suretyship, Insurance, and Sale of Goods.

(2) General principles of the Law of Personal Property, with special attention to Chattel Securities, Trusts, and Bankruptcy.

It is necessary that students should have access to the Statutes bearing upon the foregoing topics. Text-book recommended—W. D. Edwards' "Commercial Law."

COMMERCIAL FRENCH AND GERMAN.

Candidates for the degree of B. Com. are required to take either French or German for both sections of the degree. The work for the first section is the same as for the B.A. degree—of which particulars are given in the College Syllabus (see pages 45-47)—and comprises translation from and into the language taken, together with the study of grammar, pronunciation, prescribed

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works and a period of literature. For the second section the language must be studied from a commercial point of view, and its application to business requirements will be considered as of the first importance. The course for the second section will include:—

(1) The study of technical terms of commerce, with translations into and from French or German of commercial letters, price lists, market reports.

(2) Preparation of orders, invoices, statements, accounts current, and drafts.

(3) Conversation and debates on general and commercial subjects.

(4) The study of typical examples of foreign commercial and industrial literature. Students are also recommended to read current foreign publications.

Lectures will also be delivered, as required, in all other subjects needed to complete the second part of the B. Com. course.

THE TIME-TABLE FOR LECTURES FOR THIS YEAR IS AS FOLLOWS —

ECONOMICS.—J. P. Grossmann, M.A

Monday and Thursday, 5—6 p.m.

HISTORY.—J. P. Grossmann, M.A.

Tuesday, 8—9 p.m.

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SYLLABUS OF LECTURES.

COMMERCIAL GEOGRAPHY.—J. P. Grossmann, M.A.

Friday, 8—9 p.m

FRENCH (as for B.A. Degree)—M. Walker, M.A.

Translation.—Saturday, 12—1 p.m.

Composition.—Wednesday, 4—5 p.m.

History of Literature and Unseen Translation.—
Thursday, 4—5 p.m.

Pronunciation —Tuesday, 4—5 p.m.

Commercial French.—M. Walker, M.A.

Monday and Friday, 6—7 p.m.

GERMAN (as for B.A. degree), M. Walker, M.A.

Translation.—Thursday, 5—6 p.m.

Composition.—Monday, 5—6 p.m.

History of Literature.—Tuesday, 5—6 p.m.

Commercial German.—M. Walker, M.A.
Wednesday, 5—6 p.m.; Friday, 7—8 p.m.

COMMERCIAL LAW.—H. Dean Bamford, B.A., LL.D.
Wednesday, 5—6 p.m.

ACCOUNTING.—H. H. Hunt, F.N.Z.A. and A.A.
Monday and Thursday, 8—9 p.m.

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SYLLABUS OF LECTURES.

The Lecturers in each subject will give all information as to books required.

These hours are subject to alteration to suit the convenience of students.

The Lectures can be attended by anyone, whether matriculated or not, on payment of the ordinary College fees.

No provision has been made by the University for "keeping terms," and there are therefore no compulsory annual College examinations to pass before sitting for the degree.

Any one lecture or more can be taken by anyone who does not desire the whole course.

It is understood that arrangements will be made to grant "certificates of proficiency" on examination in the various subjects studied and lectured upon during the College year.

Fees—10s per term for one hour per week, £1 for two hours—are payable to the Registrar at the University College within 14 days of the commencement of any term. Students whose fees remain unpaid are liable to a fine of 2s 6d per month or part of month for each subject.

Intending students are requested to enter their names on the College books at once so as not to delay the work of the session by coming into the classes later on.

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SYLLABUS OF LECTURES.

MUSIC (Dr. W. E. Thomas).

*JUNIOR DIVISION.

Hour of Lecture—Monday, 6—7 p.m.

Elements of Music: Notes, rests, clefs, intervals, scales, time abbreviations, and other signs.

Harmony[1]*:* Common chords, chords of the dominant 7th, 9th, 11th, 13th, suspensions, augmented 6th, cadences, passing notes, sequences, transposition, modulation, and harmonising melodies.

Counterpoint[2]*:* Simple; all species in two parts.

History of Music.[3]

INTERMEDIATE DIVISION.

Hour of Lecture—Thursday, 6—7 p.m.

Harmony[1]*:* Up to four parts.

Counterpoint[2]: Simple, up to three parts.

Double Counterpoint: In the octave, 10th, 12th, and 15th.

Canon and Fugue: In two parts.

Instrumentation: Compass, capabilities, and quality of the various instruments employed in the orchestra.

Form: as employed in classical compositions.

History of Music.[3]

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* This Division will cover the knowledge necessary for Trinity College, London, Senior; the Associated Board of R.A.M. and R.C.M., Senior; and Matriculation.

(1) Stainer's "Harmony" is recommended for Juniors, and Prout's for Intermediate and Advanced.

(2) Bridge's "Counterpoint" for Juniors, Prout's for Intermediate and Advanced.

(3) Davey's "History of Music" is recommended for all Divisions.

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SYLLABUS OF LECTURES.

ADVANCED DIVISION.

Hour of Lecture—Friday, 6—7 p.m.

For Advanced Students: The lectures will comprise the whole of the Theory and History of Music, up to the standard of the Bachelor of Music Degree.

COMPOSITION CLASS.

Lectures will be given in Musical Composition, principally addressed to those who have passed the Advanced Division Examination, providing that at least six Students give in their names to the Registrar.

The above-mentioned lectures will be delivered at the University College.

MEDALS.

Silver Medals will be given by the School of Music to those who obtain the highest marks in the first class at the Annual Examination in each of the Junior, Intermediate, and Advanced Divisions of Theory, providing conduct, attendance, and progress have been satisfactory.

Students who have won a medal shall not be allowed to enter again in the same division.

PRIZES.

Book Prizes will be given to those who obtain the highest marks in the Senior Grade Practical Examination, the Associate Practical Examination, and the Fellowship Practical Examination.

SCHOLARSHIP.

A Scholarship entitling the winner to obtain three years' free tuition at the College School of Music, and £2 2s towards the expenses of the Fellowship, Practical, or Theoretical Examination, is instituted by the University College Council. The Examination for the Scholarship will be a Theoretical one up to the standard of the Senior Grade Examination The next Examination will take place early in March, 1908. Intending Candidates must give in their names on or before March 1st, 1908, to the Registrar.

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SCHOOL OF MUSIC.

Syllabus of Requirements for Practical and Theoretical Examinations, and for Diplomas conferred by the University College, Auckland.

1906.

[This Syllabus will remain in force until December, 1906.]

The objects that the School of Music has in view are the following:—

(1) The Cultivation of the Study, Execution and Composition of Music in all its branches.

(2) To provide a thorough system of Education in all musical matters by lectures and tuition.

(3) To grant certificates of merit and diplomas to those persons who have passed the examinations.

(4) To thoroughly equip those persons who are desirous of becoming qualified teachers and performers of music.

PRACTICAL AND THEORETICAL EXAMINATIONS.

(1) These examinations will be held at the University College in May and November, and are open to all persons without restrictions as to age. The Registrar of the College will supply full particulars, receive names and fees, and give dates of examinations.

(2) Certificates will be given to successful candidates on the report of the Examiners.

(3) Candidates must send in their names, together with fees, to the Registrar, at least fourteen days before the date of examination. They may enter for any grade, without restriction, excepting the Associate and Fellowship of Music (v regulations for Diplomas). Candidates may enter again for Honours in any grade.

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(4) A card giving particulars of date and time of examination will be sent to each candidate. This card must be produced at the examination, and will be returned to the candidate with the number of marks obtained in each subject inserted. For a pass certificate 65 marks will be required. For Honours 85.

(5) Candidates who fail to put in an appearance at the examination will forfeit their fees; where a satisfactory reason is given for absence, they may present themselves for the next examination on payment of half fees.

(6) The subjects of examination, and for which certificates are separately granted, are as follows:—Theory of Music; Pianoforte Playing; Solo Singing; Class Singing; Orchestral Instruments; Organ Playing; Violin Playing; and Teachers' Examination.

(7) There are seven grades of examinations:—Primary, Junior, Intermediate, Senior, Associate of Music, Fellowship of Music, and Teachers' Examination.

(8) There will be two Examiners in all Practical Subjects.

THEORY OF MUSIC.

Maximum, 100; Honours, 85; Pass, 65.

*Requirements for Primary, Junior, Intermediate, and Senior Examinations—

P.J.I.S. Notation.
Time.
Clefs.
Scales (major).
Musical terms (relating to tone and speed).
P. Accidentals.

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*Primary, P. to P.; Junior, J. to J.; Intermediate, I. to I.; Senior, S. to S.

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Minor and Chromatic Scales.

Key Signatures.

Transposition.

J. Rests.

Staccato and Legato Marks.

Syncopation.

Intervals.

Alto and Tenor Clefs.

Signs in general use.

I. Figured Bass or Common Chords and Inversions.

Harmonising figured Bass, taking in all dominant discords.

Vocal Score.

All C Clefs.

Harmonizing a Melody.

S. Counterpoint in all species in two parts.

Specimen papers can be obtained at the Registrar's Office.

FEES—Primary, 5s.; Junior, 6s.; Intermediate, 7s. 6d.; Senior, 10s. 6d.

PRACTICAL EXAMINATIONS.

Syllabus of Requirements.

Maximum, 100; Honours, 85; Pass, 65.

Pianoforte Playing.

Primary. (Fee, 10s. 6d.)

(*a*) Scales of C, G, D, A, F, B flat, and E flat. Two octaves; one hand at a time, or both hands together.

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(*b*) Studies No. 1 to 7, from Czerny's 101 Exercises.

(*c*) Sonatina in G, No. 37, Beethoven.

Junior. (Fee, 12s. 6d.)

(*a*) All Major Scales; Two octaves in similar and contrary motion.

(*b*) Studies Nos. 15 and 18, Op. 50—Kohler.

(*c*) Andante sostenuto in E flat (Christmas Pieces), Op. 72, No. 2—Mendelssohn.

(*d*) Gigue Favorite in A, "Pensées Musicales," No. 3—Neustedt.

Intermediate. (Fee, 15s.)

(*a*) Major and minor scales in similar and contrary motion; harmonic form only in contrary motion.

(*b*) Arpeggios of major and minor chords in the first position.

(*c*) Sight reading.

(*d*) Studies Nos. 23 and 25, Op. 32—Bertini.

(*e*) Capriccio in A mi, Op. 28, No. 3—Sterndale Bennett.

(*f*) Rondo in C, Op. 51—Beethoven.

Senior. (Fee, £1 1s.)

(*a*) Scales, major and minor, in octaves, 3rds, 6ths, and 10ths, in similar and contrary motion.

(*b*) Arpeggios of major and minor common chords, dominant 7ths and diminished 7ths in all positions.

(*c*) Sight reading.

(*d*) Study Gradus ad Parnassum, No. 17—Clementi; and Prelude No. 1 of Bach's 48 Preludes and Fugues.

(*e*) Polonaise in C sharp minor, Op. 26—Chopin

(*f*) Fugue in E major, No. 9, Book 2, of Bach's 48 Preludes and Fugues.

Students of the College wishing to enter for any of the above practical examinations will be admitted as candidates on payment of half-fees.

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Solo Singing.

Primary. (Fee, 10s. 6d.)

(*a*) Major scales to "Ah."
(*b*) Any one of the Studies of Concone.
(*c*) A simple song selected by the candidate.
(*d*) Ear tests.

Junior. (Fee, 12s. 6d.)

(*a*) Major and minor scales to "Ah."
(*b*) Intervals of 3rds, 4ths (perf.), 5ths (perf.), and octave.
(*c*) One study from Concone.
(*d*) A simple song selected by the candidate.
(*e*) Ear tests.
(*f*) An easy piece from sight.

Intermediate. (Fee, 15s.)

(*a*) Major and minor scales (harmonic minor).
(*b*) Two studies from Concone.
(*c*) All intervals within the octave (except diminished and augmented).
(*d*) Sight reading.
(*e*) Ear tests.
(*f*) One song selected from an Oratorio by the candidate.

Senior. (Fee, £1 1s.)

(*a*) Major and minor scales (harmonic and melodic minor).
(*b*) Two studies from Concone.
(*c*) Diatonic and chromatic intervals.
(*d*) Sight reading.

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(*e*) One song, selected by the candidate from an Oratorio, and one song from the list below—

Soprano—"On mighty pens," from "Creation"—Haydn.

Mezzo-Soprano—"What though I trace"—Handel.

Alto—"He was despised," from "Messiah"—Handel.

Tenor—"Thou shalt break them," from "Messiah"—Handel.

Baritone—"It is enough," from "Elijah"—Mendelssohn.

Bass—"The wanderer"—Schubert.

[Candidates must bring their own accompanists.]

N.B.—Students of the College wishing to enter for any of the above examinations in singing, will be admitted as candidates on payment of half-fees.

Class Singing.

Fees: A class numbering 10 or less, £1 1s.; a class numbering 11 or more, £1 11s. 6d.

[There are three standards, A, B, C, of which A is the highest. A requires 85 marks. B, 75. C, 65.]

Requirements—

(*a*) Major and minor scales.

(*b*) Diatonic intervals.

(*c*) A song of the conductor's choice.

(*d*) Any two of Mendelssohn's two-part songs.

Orchestral Instruments.

Fees, similar to the other practical sections.

Candidates must submit for the approval of the Director of Examinations one study, and two selected pieces by some classical composer.

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Reading from sight will be expected of all grades except the Primary.

Students of the College will be accepted as candidates at half-fees.

Organ Playing.

Junior. (Fee, 12s. 6d.)

(*a*) Major and harmonic minor scales to the extent of two octaves (either hand may be required or both hands together).
(*b*) Major scales to the extent of one octave on the pedals.
(*c*) Two preludes from Rink's Organ School, Vol. I.
(*d*) Prelude and Fugue in C major. No. I. of short Preludes and Fugues.
(*e*) Sight reading.

Intermediate. (Fee, 15s.)

(*a*) All major and minor harmonic scales in similar and contrary motion.
(*b*) Major and minor harmonic scales (one octave on the pedals.)
(*c*) Nos. 8 or 10 from Twelve Short and Easy Pieces—Smart.
(*d*) No. 2 (D mi.) Prelude and Fugue—Bach.
(*e*) Sight reading.

Senior. (Fee, £1 1s.)

(*a*) All major and minor scales in 3rds, 6ths, and 8ths, and chromatic scales throughout the keyboard.
(*b*) Major, minor, and chromatic scales throughout the pedalboard.
(*c*) Major scales, pedal and left-hand in contrary motion to the extent of two octaves, when possible.
(*d*) Tempo Gavotte No. 6, Book III., Pearce's Organ Studies—Handel.
(*e*) Prelude and Fugue in D minor—Mendelssohn.
(*f*) Sight reading.

N.B.—Half-fees to students of the College.

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Violin Playing.

Primary. (Fee, 10s. 6d.)

(*a*) Major scales of C, G, D, and F, in the first position.
(*b*) Six Divertissements, Book I. Op. 106 (any one)—Dancla
(*c*) Nos. 7 and 9, from Thirty Melodies—Berthold Tours

Junior. (Fee, 12s. 6d.)

(*a*) Major scales of A, E, B, and B flat, in the first position.
(*b*) Sight reading.
(*c*) Four easy Sonatinas, Op. 35, No. 1 or 2, Book I.—Kayser.
(*d*) Gavotte moderne—Tours.

Intermediate. (Fee, 15s.)

(*a*) All major and minor scales not beyond the 5th position, ascending and descending (two octaves).
(*b*) Major and minor common chord arpeggios (not beyond the 5th position).
(*c*) Sight reading.
(*d*) "Allegro vivace in C," 1st Movement of Sonata for Piano and Violin—Mozart.
(*e*) Berceuse, Op. 25—Thomas.
(*f*) No. 37 of Spohr's Grand Violin School.

Senior. (Fee, £1 1s.)

(*a*) The major and minor scales (three octaves) of E, A flat, A, B flat, B; all other scales two octaves only.
(*b*) Major and minor common chords and inversions, and the chord of dominant 7th (root position).
(*c*) Sight reading.
(*d*) Nos. 46 and 47 of Spohr's Grand Violin School.
(*e*) Barcarolle—Spohr.
(*f*) Romance in F—Beethoven.

[Candidates must bring their own accompanists.]

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DIPLOMAS.

Associate of the School of Music.

1. Candidates for this Certificate must attend a course of Lectures in Acoustics, and pass an examination in the same.

2. They must also give two years' attendance on lectures in the School of Music, embracing the Theory of Music, Harmony, Composition, Form, Counterpoint, Fugue, History of Music, and Instrumentation; and must also display the required proficiency in the execution of either vocal or instrumental music of standard examples of classical and modern composition; or, if the Associate of Music is taken in the Theory of Music, must write an exercise and pass the Examination as laid down in the Syllabus.

3. Notwithstanding the fulfilment of all other requirements, no person shall be entitled to receive the diploma of "Associate" until he or she shall have attained the full age of 17 years.

Practical Examination for Associate of Music. (Fee, £1 11s. 6d.)

PIANOFORTE PLAYING.

Required:—

(*a*) Prelude and Fugue in G sharp mi. No. 18, Book I., Bach's 48.

(*b*) Sonata in A flat, Op. 26—Beethoven.

(*c*) Sight reading.

(*d*) All major and minor scales and arpeggios in similar and contrary motion.

(*e*) A critical knowledge of the pieces performed.

ORGAN PLAYING.

(Fee, £1 11s. 6d.)

Required:—

(*a*) Bach's "S. Anne" Fugue.

(*b*) Sonata I.—Mendelssohn.

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(*c*) Sight reading.

(*d*) Reading from Figured Bass.

(*e*) A critical knowledge of pieces performed.

Solo Singing.

(Fee, £1 11s. 6d.)

Soprano—(*a*) "O let eternal honours" and "From mighty kings"—Handel.

(*b*) "With verdure clad" (Creation)—Haydn.

(*c*) Sight reading.

(*d*) Any major or minor scale.

(*e*) A critical knowledge of the pieces performed.

Mezzo-Soprano—(*a*) "She wandered down the mountain side"—Clay.

(*b*) "Rose softly blooming"—Spohr.

(*c*), (*d*), (*e*) as Soprano.

Contralto—(*a*) "O thou that tellest"—Handel.

(*b*) "O that we two were maying" (in C)—Gounod.

(*c*), (*d*), (*e*) as Soprano.

Tenor—(*a*) "The enemy said"—Handel.

(*b*) "I'll sing three songs of Araby"—Clay.

(*c*), (*d*), (*e*) as Soprano.

Bass—(*a*) "Why do the nations" Handel.

(*b*) "'Tis jolly to hunt"—S. Bennett.

(*c*), (*d*), (*e*) as Soprano.

Orchestral Instruments.

(Fee, £1 11s. 6d.)

Two classical pieces by different composers must be submitted to the Examiners; the other tests will be the same as under Pianoforte Playing.

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Violin Playing.

(Fee, £1 11s. 6d.)

Required:—

(*a*) Studies 7 and 8 (Augener)—Rode.

(*b*) Tarantelle from Op. 85, No. 6 (Augener)—Raff.

(*c*), (*d*), (*e*) as Pianoforte.

Theoretical Examination for Associate.

Candidates must attend two years at the University College lectures in School of Music, and have passed the Annual Examinations.

An Examination Paper will be set in the following subjects:—

(*a*) Harmony in 4 parts of an advanced nature.

(*b*) Counterpoint in 4 parts.

(*c*) Double Counterpoint in the 8th and 15th.

(*d*) Canon in two and three parts.

(*e*) Fugue in two and three parts.

(*f*) Instrumentation.

(*g*) Form.

(*h*) History of Music.

An Exercise for 4 voices and string accompaniment, in modern anthem form, must then be submitted to the Professor of Music, with a declaration stating that the composition is the unaided work of the candidate.

N.B.—All exercises must be sent to the Registrar to be placed in the College Library, if accepted by the Examiners.

Fellow of the School of Music.

Candidates must have passed the Examination for Associate of Music, and in addition must have attended a year's lectures in music at the University College after passing the Associate of Music.

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Theoretical Examination for Fellowship. (Fee, £2 2s.)

Requirements:—

(*a*) Harmony in 5 parts of an advanced nature.
(*b*) Strict Counterpoint in 5 parts.
(*c*) Double Counterpoint in the 8th, 10th, 12th, and 15th.
(*d*) Canon in 2, 3, and 4 parts.
(*e*) Fugue in 4 parts.
(*f*) Instrumentation.
(*g*) Form.
(*h*) History of Music.

An Exercise for 4 or 5 voices, with string accompaniment, containing contrapuntal writing, in at least two movements, must be sent in to the Professor of Music, with a declaration stating the composition is the unaided work of the candidate.

N.B.—All Exercises must be sent to the Registrar to be placed in the College Library, if accepted by the Examiners.

Fellowship.—(Practical.)

(Fee, £2 2s.)

Pianoforte Playing.

Requirements:—

(*a*) Fuga in A of 7 Characteristic Pieces—Mendelssohn.
(*b*) Berceuse, Op. 57—Chopin.
(*c*) First two movements Sonata Appassionata. Op. 57—Beethoven.
(*d*) Sight reading.
(*e*) All major and minor scales in 3rds, 6ths, 10ths, and double 3rds and 6ths; chromatic scales in all conceivable ways; all arpeggios in similar and contrary motion.
(*f*) A critical knowledge of the pieces performed.
(*g*) Accompaniment to a song from sight.

N.B.—An artistic rendering of the pieces performed is essential.

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Fellowship.—(Practical.)

(Fee, £2 2s.)

Organ Playing.

Requirements:—

(*a*) Playing from figured bass at sight.
(*b*) Extemporisation.
(*c*) Questions on stops.
(*d*) Bach's G minor Fugue.
(*e*) Sonata No. I.—Guilmant.
(*f*) A critical knowledge of the pieces performed.

Fellowship.—(Practical.)

(Fee, £2 2s.)

Solo Singing.

(*a*) Sight singing of an advanced nature.
(*b*) Scales, diatonic and chromatic.
(*c*) Two studies of an advanced nature, chosen by the candidate.
(*d*) One solo selected by the candidate.
(*e*) One solo selected from list below:—

Soprano—"Rejoice greatly"—Handel's "Messiah."
Alto—"O thou afflicted!"—Benedict's "S. Peter."
Tenor—"On, away! awake!"—Coleridge-Taylor's "Hiawatha."
Bass—"But who may abide"—Handel's "Messiah."

(Candidates must bring their own accompanists,)

Violin Playing.

(Fee, £2 2s.)

Required:—

(*a*) Concerto No. II.—Spohr.
(*b*) Kreutzer sonata—Beethoven.
(*c*), (*d*), (*e*), as under Pianoforte Playing.

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*TEACHERS' CERTIFICATE.

(Fee, £3 3s.)

A Certificate will be granted to those who require to show their proficiency in Performance (Piano, Organ, Singing, Violin, or Orchestral Instruments), Theory, and Capabilities of Teaching, after passing the following test :—

Requirements—

(*a*) To Play or Sing Compositions required for Associate of Music (*vide* above, *a* and *b*).

(*b*) Senior Grade Theory.

(*c*) †Technique of Teaching *(viva voce)*.

In issuing the Syllabus of Practical and Theoretical Examinations, it is hoped that a want, often expressed, has been supplied.

The following points must be noted with reference to the conduct of the Examinations to be held at the University College :—

(1) **Two Examiners will be present at all Practical Examinations.**

(2) **Ample time will be given to each candidate for performance.**

(3) **The whole of the work prepared will be expected to be performed,** but the Examiners reserve the right to stop the Candidate when their judgment is formed.

(4) **All candidates, in whatsoever grade they may select, will have the same works to prepare**

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*This Examination is open to all, whether members of the College or not, irrespective of age.

† (*c*) This will have special reference to backward pupils, and the difficulties generally met with in teaching.

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Table of Fees.

	£	s.	d.
Theoretical Examinations:—			
Primary	0	5	0
Junior	0	6	0
Intermediate	0	7	6
Senior	0	10	6
Practical Examinations:—			
Primary	0	10	6
Junior	0	12	6
Intermediate	0	15	0
Senior	1	1	0
Associate of School of Music...	1	11	6
Fellow „ „	2	2	0
Teacher's Certificate—			
Inclusive Fee	3	3	0

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GRADUATES.

The following are the Graduates of the University of New Zealand, whose names are on the College Register:—

DOCTOR OF SCIENCE.

MACLAURIN, James Scott (B.Sc. 1892), 1897 (*1*)

DOCTOR OF LAWS.

BAMFORD, Harry Dean (B.A. 1899, LL.B. 1901), 1903 (*2*)

MASTERS OF ARTS.

ALLEN, Richard William (B.A. 1898), 1899

ARDERN, Philip Sydney (B.A. 1902), 1903

BUCHANAN, Edith Mary [*née* Adams] (B.A. 1889), 1890

CARTER, Frederick John (B.A. 1890), 1891

CLARKE, Edward de Courcy (B.A. 1901), 1902 (Certificate of Proficiency M.A. Standard. 1905) (*3*)

COUSINS, Herbert Granville (B.A. 1904), Honours 1905

COWX, Howard Percival (B.A. 1890), 1891

CRUMP, Arthur Rainsforth (B.A. 1902), 1903

CRUMP, Mabel Lilian (B.A. 1896), 1897

CURRIE, Annie Hamilton (B.A. 1892), 1893

DAVIS, John King (B.A. 1881), 1882 (*3*)

FIELD, Edward Thurlow (B.A. 1892, LL.B. 1895), 1893

FRENCH, James Morison (B.A. 1887), 1888

GIFFORD, Arthur (B.A. 1885), 1886

GIFFORD, Sylvia Esther, (B.A. 1890), 1891

GILLIES, Sinclair (B.A. 1888), 1889

(*1*) Government Analyst.
(*2*) Law Lecturer at Auckland University College.
(*3*) Master at Auckland Grammar School.

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GRANT, Catherine Donaldson (B.A. 1892), 1893 (*4*)

GREEN, Thomas Hillier (B.A. 1889), 1890

HALLIWELL, Luther Vincent (B.A. 1902), 1903

HAMILTON, Robert James (B.A. 1895), 1896

HARRIS, Thomas Abraham (B.A. 1900), 1901

HULL, Cecil Lina Francis (B.A. 1903), 1905

HUNTER, Matthew Albert (B.Sc. 1900), (Honours 1901), 1902

JACOBSEN, Frances Violet Josephine (B.A. 1904), Honours 1905.

JACKSON, David Hamilton (B.A. 1891, B.Sc. 1893), 1892

LA TROBE, William Sanderson (B.A. 1893), 1894

LIPPIATT, George (B.A. 1890), 1891

LUSK, Harold Butler (B.A. 1901), 1902

MACLAURIN, Richard Cockburn (B.A. 1891), 1901 (*5*)

MAJOR, Charles Thomas (B.A. 1892, B.Sc. 1894), 1893 (*6*)

MAJOR, Henry Dewsbury Alves (B.A. 1895), 1896

MELLSOP, Clementine Emily Margaret [*née* Harrison] (B.A. 1884), 1885

MORRISON, Annie Christina (B.A. 1892), 1893 (*7*)

MULGAN, Edward Ker (B.A. 1895), 1896 (*8*)

MCCULLOUGH, Robert Alexander (B.A. 1895), 1900 (*9*)

MCINTOSH, Ethel May (B.A. 1902), 1903 (*10*)

MCINTYRE, Hugh (B.A. 1901), 1902

MCLEAN, Nina Irene (B.A. 1904), Honours 1905

NEVE, Frederick (B.A. 1892), 1902

(*4*) Headmistress New Plymouth High School.
(*5*) Professor of Mathematics, Victoria College, New Zealand.
(*6*) Headmaster King's College, Remuera.
(*7*) Mistress at Auckland Grammar School.
(*8*) Inspector of Schools, Board of Education, Auckland.
(*9*) Master at the Dunedin Boys' High School.
(*10*) Mistress at Wanganui College.

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GRADUATES.

NEWCOMBE, Frederick (B.A. 1894), 1895
NOTT, James Thornton (B.A. 1890), 1891
PARKINSON, Henry Ainslie (B.A. 1900), 1901
PATTERSON, Florence Isabella (B.A. 1901) 1903
PICKEN, Winifred (B.A. 1894), 1895 (*7*)
PICKMERE, Marguerita Blomfield, (B.A. 1901), 1902 (*11*)
POGSON, Frank Lubecki (B.A. 1900), 1901
RÖCKEL, Robert Hermann (B.A. 1898), 1901
RYBURN, Robert Middleton (B.A. 1888), 1889
SHREWSBURY, Elsie (B.A. 1892), 1893
SHREWSBURY, Hugh (B.A. 1889, LL.B. 1894), 1890
SHROFF, Alfred Homy (B.A. 1397), 1899
SINCLAIR, Mary Muir (B.A. 1889), 1890
SINCLAIRE, Frederick (B.A. 1902) 1903
STRONG, Edward Herbert (B.A. 1899), 1900
STUCKEY, Frederick (B.A. 1901), 1902
TISDALL, Charles Archibald (B.A. 1894), 1895
TISDALL, William St. Clair Towers (B.A. 1870), 1879
TURNER, Joseph Hurst (B.A. 1889), 1890 (*3*)
WALKER, Maxwell (B.A. 1901), 1902 (*12*)
WATTS, Percy Harold (B.A. 1898), 1899
WILSON, Joseph Harris (B.A. 1883), 1886
WILSON, Ebenezer (B.A. 1902) 1903
WORLEY, Frederick Palliser (B.A. 1904), Honours 1905

BACHELORS OF ARTS.

ALLAN, Harry Howard Barton, 1905
AUBIN, Emile Dupont, 1891

(*3*) Master at Auckland Grammar School.
(*7*) Mistress at Auckland Grammar School.
(*11*) Mistress at Girls' High School, Nelson.
(*12*) Lecturer on Modern Languages, Auckland University College.

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GRADUATES.

BAKER, Harold Napier, 1900

BAKER, Mary Lilian (*née* Hill), 1889

BALL, Eleanor Dorothy (*née* Dudley), 1894

BOSCAWEN, Teresa Catherine Burgoyne (*née* Gerkens), 1897

BOYLE, John, 1893

BROAD, Charles Harrington, 1893

BROWN, George, 1902

BROWN, Mona Martha, 1905

BUTTON, Lela Cowell, 1903

CARTER, Henry James, 1894

CAUGHLEY, John, 1903

CLAYTON, Charles Ziegler, (LL.B. 1886), 1883

COLEMAN, Margaret Annabella, 1887

CRONIN, Bartholomew, 1884

DINNEEN, Alice Maud Dalton, 1901

DINNEEN, James Dalton, 1905

DREW, Gertrude Annie, 1902

DRUMMOND, James, 1894 (*3*)

DRUMMOND, Peter, 1896 (*3*)

DUNLOP, Fergus Gale, 1905

ECCLESFIELD, Isabel, 1891

ELLIS, Percy Sylvester Gilbert, 1893

FIELD, Charles William, 1899

FOX, Charles Elliot, 1900

GALWEY, John de Burgh, 1893

GATENBY, William Joshua, 1897

GATLAND, Arthur Raglan, 1905

GRANT, Jane Donaldson, 1893

(*3*) Master at Auckland Grammar School.

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GRADUATES.

GRIFFIN, Elsie Mary, 1905

GRIFFIN, Cyril James Anthony (B.Sc. 1903), 1905

HAMILTON, Annie Eliza (*née* McPherson), 1899

HETHERINGTON, Jessie Isabel, 1902

HILL (*née* Durrieu), Louisa, 1889

HINE, Hubert, 1898

HORTON, Henry, 1892

JAMES, Herbert Louis, 1886

KERR, Walter, 1886

KNAPP, Jessie, 1891

LAWS, Charles Henry, 1898

LINDSAY, Peter Alexander (M.B. and C.M., Edinburgh), 1884

LIVESEY, Cecil Edleston, 1897

LIVESEY, Florence Ellen, 1899

LONG, Frank Clendon, 1902

LLOYD, Claire Scott (*née* Smith), 1898

MAHON, Harold James del Monte, 1895 (*3*)

METCALFE, Marion Hamilton, 1905

MOORE, Joseph Harold (LL.B. 1897), 1893

MURRAY, Annie, 1893

MURRAY, Donald, 1890

McDOWELL, William Chisholm Wilson (M.B. and C.M., Edin.) (*13*)

McFARLAND, Edgar James, 1882

McSPORRAN, Robert, 1902

NORTHCROFT, Agnes Mary, 1905

O'DONOGHUE, Denis, 1900

(*3*) Master at Auckland Grammar School.

(*13*) Member of Auckland University College Council and of the Senate of the University of New Zealand.

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GRADUATES.

RANDERSON, Arthur Cyril, 1905
RATTRAY, Robert Henry (LL.B. 1880), 1878
SEVERNE, Edward Herbert, 1902
SMITH, Harry, 1897
STEVEN, Martha, 1903
THOMAS, Thomas Theodore, 1903
WALKER, William Robert Cooper, 1898 (*14*)
WATSON, Cecil Alexander Burns, 1903
WELLS, Tom Umfrey, 1894 (*15*)
WHYTE, Bessie Blair, 1903
WILLIAMS, Owen Wallis, 1905
WILSON, Helen (*née* Simpson), 1902
WITHER, George Bigg, 1895
YOUNG, Frederick William, 1897

BACHELORS OF SCIENCE.

ALLEN, Douglas Vernon, 1905
BAKER, William Henry, 1899
CHOYCE, Charles Coley, 1897
DONOVAN, Willie, 1903
DROMGOOL, James Charles, 1899
FRASER, Colin (1904), Honours 1905
GRIFFIN, Cyril James Anthony, 1903
HOLLOWAY, John Ernest (1904), Honours 1905
HUNTER, Matthew Albert (1900), Honours 1901, M.A. 1902
JACKSON, David Hamilton (M.A. 1892), 1893
KING, Eustace, 1905

(*14*) Headmaster Cambridge High School.
(*15*) Headmaster of Richmond Road School, Member of Auckland University College Council.

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GRADUATES.

MACLAREN, James Malcolm, 1899 (*16*)
MAJOR, Charles Thomas (M.A. 1893), 1894
STEPHENSON, George Benjamin, 1902

BACHELORS OF LAWS.

BAUMB, Frederick Ehrenfried, 1891 (*17*)
BROWN, Alan St. Clair, 1902
BUCKLAND, Charles Channing, 1896
CLAYTON, Charles Ziegler (B.A. 1883), 1886
COATES, Robert James, 1903
FIELD, Edward Thurlow (M.A. 1893), 1895
JACKSON, Thornton, 1900
JOHNSTONE, Joseph Boyce, 1904
KENT, George Sedgwick, 1902
MACDIARMID, Campbell Larnach, 1900
MCINTYRE, Hugh (B.A. 1901, M.A. 1902), 1904
MOORE, Joseph Harold (B.A. 1893), 1897
PEACOCK, John Campbell, 1902
RATTRAY, Robert Henry (B.A. 1878), 1880
SHREWSBURY, Hugh (M.A. 1890), 1894

Admitted Ad Eundem Gradum:

BAKEWELL, Robert Hall, M.D. (St. Andrew's).
BEATTY, William, the Reverend, M.A. (Royal, Ireland).
BOURNE, Charles Frederick, M.A. (Oxford).
COWIE, Edmund Mortlock, the Reverend, M.A. (Cambridge).
NELSON, Charles Moseley, the Reverend, M.A. (Cambridge).

(*16*) Mining Specialist, Geological Survey of India.
(*17*) M.H.R.

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GRADUATES.

O'Rorke, Honble. Sir George Maurice, M.A., Hon. LL.D. (Dublin).

Runciman, David Williamson, the Reverend, M.A. (Glasgow).

Sloman, John Flashman, B.A. (Sydney).

Tibbs, James William, M.A. (Oxford).

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UNIVERSITY SENIOR SCHOLARSHIPS.

1888—GREEN, T. H., Experimental Science (Chemistry, Heat, Electricity).

1889—CARTER, F. J., Latin and English

COWX, H. P., Mental Science.

GIFFORD, Sylvia E., Political Science.

NOTT, J. T., Natural Science (Zoology).

1890—JACKSON, D. H., Chemistry.

MACLAURIN, R. C., Mathematics.

1891—MAJOR, C. T., Mathematics.

SHREWSBURY, Elsie, Political Science.

1892—BOYLE, J., Chemistry.

1894—MAJOR, H. D. A., Geology.

1897—WATTS, P. H., Mathematics.

ALLEN, R. W., Chemistry.

1898—MACLAREN, J. M., Natural Science (Geology).

BAKER, W. H., Chemistry.

1899—FOX, C. E., Natural Science (Geology).

HUNTER, M. A., Chemistry.

POGSON, F. L., Latin (equal with another).

1900—CLARK, E. de C., Natural Science (Geology).

1901—HALLIWELL, L. V., Mathematics.*

LONG, F. C., Political Science.

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*Also gained Scholarship in Chemistry, but debarred from holding two Scholarships.

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SCHOLARSHIPS.

1901—SINCLAIRE, F., Latin.

STEPHENSON, G. B., Natural Science (Botany)

1902—DONOVAN, W., Chemistry.

GRIFFIN, C. J. A., Mathematics.

1903—FRASER, C., Natural Science (Geology).

JOHN TINLINE SCHOLARSHIP [ENGLISH].

1901—ARDERN, P. S.

EXHIBITION 1851 SCIENCE SCHOLARSHIP.

1892—JACKSON, D. H., *Chemistry.

1894—MACLAURIN, J. S., †Chemistry.

1901—MACLAREN, J. M., Geology

1902—HUNTER, M. A., Chemistry

SINCLAIR SCHOLARSHIP.

1885—WILSON, F. E.

1888—No Appointment.

1895—No Appointment.

1896—DINNEEN, Alice M. D.

1899—STEVEN, Martha M.

1902—IRONSIDE, Anne F.

1905—WILDMAN, Susannah

---

*Renewed by Commissioners in 1894 for a third year.
†Relinquished the Scholarship.

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GILLIES SCHOLARSHIP.

1885—GREEN, T. H.

1888—GRANT, Jane D.

1895—DROMGOOL, J. C.

1898—HUNTER, M. A.

1901—No Appointment.

1903—HANSEN, D. C.

SIR GEORGE GREY SCHOLARSHIP.

1900—CRUMP, A. R.

1902—GRIFFIN, C. J. A. (*1*)

1902—JACOBSEN, Frances V. J.

1903—No Appointment.

1904—CARADUS, E.

1905—ZIMAN, S. N.

EARLY ENGLISH TEXT SOCIETY PRIZE 1904.

WILLIAMS, O. W.

(*1*) Resigned because held another scholarship, and Frances V. J. Jacobsen appointed.

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UNDERGRADUATES.

NOTE.—This list, in order to avoid unduly loading the pages of the Calendar, does not contain the names of those Undergraduates who have not, although keeping their names on the Books of the University, presented themselves during the last two years at College Examinations.

REFERENCES.—*J.S.* means Junior Scholar; *Sin. S.* means Sinclair Scholar; *G.S.* means Gillies Scholar.

Fifth Year's Terms have been kept by—

Worley, Frederick P.

Four Years' Terms have been kept by—

Cousins, Herbert G. (B.A.)
Fraser, Colin (B.Sc.)
Griffin, Cyril J. A. (B.Sc.)
King, Eustace (M.A.)

Three Years' Terms have been kept by—

Adams, James H.
Burns, Hector K.
Caradus, Edward, *J.S.* (*Sir G. Grey S.*)
Chitty, Ernest
Ironside, Anne F., *Sin. S.*
Kirkbride, Faith M.
Lambourne, Nelson T.
McDonald, Ranald A.
Miller, Charles F. C., *J.S.*
Robertson, May B.
Ward, Henry H.
Warren, Thomas F.

Two Years' Terms have been kept by—

Bell, R. Rowan
Bowen, Rosanna
Castle, John G. T.
Hampson, Martin H.
Hansen, David E., *G.S.*
Hay, Mona C.
Heney, Dora A.
Howarth, Athol F.

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UNDERGRADUATES.

Jones, Florence M. de V.
Kempthorne, Leonard S.
Latham, Robert
Lewis, Florence M., *J.S.*
Mackie, Lionel J. M.
Metcalfe, George H.
Moore, William E.
Neumegen, Ernest E.
Parkinson, Charles T.
Scott, Winifred M.
Shanahan, Edward W.
Short, Arthur W.
Simmonds, Joseph C.
Skelton, Marcus N.
Wilks, Doris E.
Woolley, Alice M. L.
Wylie, Robert H.
Ziman, Ralph L.
Ziman, Solomon N., *J.S.*

One Year's Terms have been kept by—

Aldridge, Wilfred G.
Ashcroft, Basil D.
Bain, May C.
Ballantyne, Kenneth M.
Boult, Edith R.
Brookfield, Kenneth L. P.
Chalmers, Douglas C.
Collins, Edith C.
Colquhoun, Edith J.
Dunlop, Sylvia R.
Fendall, Phyllis M.
Gibbons, Naomi I.
Haselden, Ella D.
Hume, Alan M.
Langmuir, Hugh B., *J.S.*
Laseron, Edward B. M.
Mead, Arthur D.
Moore-Jones, Winifred L.
Mowbray, Douglas R. C.
Poananga, Henare
Reid, Mabel S.
Skelton, Alfred N.
Speight, Henry B.
Tendall, Claude S.
Thompson, James F.
Webster, Arthur
Welham, Alma A.

Students who have not yet kept one Year's Terms—

Avery, William W.
Binsted, Henry
Blakey, Frank E.
Braithwaite, James
Brown, Beryl
Browne, James W.

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UNDERGRADUATES.

Budd, Edward C.
Buttle, S.
Buttle, William S.
Cowan, Dallas
Dempsey, Sydney W.
Elliot, Sydney J.
Eslick, Violet T.
Fordyce, Joanna
Gilfillan, Trevor V. G.
Gray, Ida
Green, Alfred
Hall, Eveline M.
Hall, Laura H.
Hames, Thomas L.
Hill, Howard
Holland, Amy
Hunt, Robert P.
Johnston, Minnie
Jowitt, Alfred N.
Kane, Jeannie
Laseron, Marion
Louch, Amy L.
Mandeno, Lloyd
Masefield, John
Massicks, Agnes J.
McElwain, Ruby
Miller, Daisy
Miller, Violet
Neumegen, Eva
Oliphant, James
Oliphant, William
Phillips, Kenneth
Potter, Nellie
Pullen, John F.
Rhodes, Edith
Rice, Eleanor M.
Schenk, Amy
Scott, Michael H.
Sinclair, Oliver W. H.
Snadden, George
Stanton, Joseph
Stewart, Edmund
Thorne, Jessie
Tobin, Charles E. O. H.
Tuck, W. R.
Tudehope, Claude B.
Walker, Hilda M.
Watts, Ethel
Webb, Edith
Wilson, Frank

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ANNUAL EXAMINATION.

After the Annual Examination held in October, 1905, the following Students were credited with having kept the Terms of the year :—

Adams, J. H.
Aldridge, W. G.
Ashcroft, D. B.
Bain, May C.
Ballantyne, K. M.
Bell, R. R.
Bowen, Rosanna
Brookfield, K. L. P.
Burns, H. K.
Caradus, E.
Castle, J. G.
Chalmers, D. C.
Chitty, E.
Collins, Edith C.
Dunlop, Sylvia R.
Fendall, Phyllis M.
Hansen, D. E.
Haselden, Ella D.
Hay, Mona C.
Heney, Dora A.
Howarth, A. F.
Hume, A. M.
Ironside, Anne F.
Jones, Florence M. de V.
Kempthorne, L. S.
Kirkbride, Faith M.
Lambourne, N. T.
Langmuir, H. B.
Laseron, E. B. M.
Lewis, Florence M.
Mead, A. D.
Metcalfe, G. H.
Miller, C. F. C.
Moore-Jones, Winifred L.
Mowbray, D. R. C.
Neumegen, E. E.
Parkinson, C. T.
Poananga, H.
Robertson, May B.
Scott, Winifred M.
Speight, H. B.
Tendall, C. S.
Ward, H. H.
Warren, T. F.
Webster, A.
Welham, Alma A.
Worley, F. P.
Ziman, S. N.

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ANNUAL EXAMINATION.

The Students who passed in the several subjects at the Annual Examination of the year 1905 were classified as follows:—

LATIN.

Class I.

Hansen, D. E.
Ziman, S. N.
Welham, Alma A.
Bell, R. R.
Howarth, A. F.
Chalmers, D. C.
Haselden, Ella D.
Aldridge, W. G.
Langmuir, H. B.
Ashcroft, B. D.

Class II.

Robertson, May B.
Hay, Mona C.
Scott, Winifred M.
Ballantyne, K. M.
Parkinson, C. J.
Jones, Florence M. de V.
Collins, Edith C.
Heney, Dora A.
Neumegen, E. E. } equal
Colquhoun, Edith } equal
Castle, J. G.
Bain, May C. } equal
Metcalfe, G. H. } equal
Dunlop, Sylvia R.
Poananga, Henare

Class III.

Bowen, Rosanna
Brookfield, K. L. P.
Fendall, Phyllis M.
Hampson, M. H.
Hume, Alan
Laseron, E. B. M.
Mowbray, D. R. C.
Snadden, G.
Speight, H. B.
Tukere Te Anga.
Webster, A.
Wilson, F. R.

GREEK.

Class I.

None.

Class II.

Ward, H. H.

Class III.

None.

ENGLISH.

Class I.

Howarth, A. F.
Welham, Alma A.
Robertson, May B.
Chalmers, D. C. } equal
Haselden, Ella D. } equal
Bell, R. R.
Langmuir, H. B.
Lewis, Florence M.

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Class II.

Dunlop, Sylvia R.
Warren, T. F.
Moore-Jones, Winifred L.
Ballantyne, K. M.
Laseron, E. B. M.

Class III.

Ashcroft, B. D.
Bain, May C.
Brookfield, K. L. P.
Burns, H. K.
Fendall, Phyllis M.
Hume, A. M.
Hunt, P.
Metcalfe, G. H.
Mowbray, D. R. C.
Neumegen, E. E.
Parkinson, C. T.
Poananga, H.
Speight, H. B.
Tukere Te Anga
Webster, A.

FRENCH.

Class I.

Caradus, E.
Peacocke, Muriel
Welham, Alma A.
Miller, C. F. C.

Class II.

None.

Class III.

Collins, Edith C.
Dunlop, Sylvia R.
Hay, Mona C.
Jones, Florence M. de V.
Kirkbride, Faith M.
Laseron, E. B. M.
Scott, Winifred M.

ORAL TEST.

Caradus, E.
Hay, Mona C.
Jones, Florence M. de V.
Kirkbride, Faith M.
Miller, C. F. C.
Peacocke, Muriel
Scott, Winifred M.

GERMAN.

Class II.

Jones, Florence M. de V

Class III.

Hamann, L. H.

ORAL TEST.

Jones, Florence M. de V.

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JURISPRUDENCE AND CONSTITUTIONAL HISTORY.

Class I.

Howarth, A. F.
Bell, R. R.
Chalmers, D. C.
Miller, C. F. C.

Class II.

Lambourne, N. T.
Chitty, E. E.
Langmuir, H.

Class III.

Ballantyne, K. M.
Bowen, Rosanna
Brookfield, K. L. P.
Hume, Alan
Metcalfe, G.
Mowbray, D. R. C.
Neumegen, E. E.
Parkinson, C. T.
Poananga, H.
Speight, H. B.
Ward, H. H.

PURE MATHEMATICS.

Higher Standard.

Class III.

Kirkbride, Mary F.

Ordinary Standard.

Class I.

Ziman, S. N.
Aldridge, W. G.
Hansen, D. E.
Kempthorne, L. S.
Ironside, Anne F.
Mead, A. D.
Lewis, Florence M. L.

Class II.

Miller, C. F. C.
Ashcroft, B. D.

Class III.

Avery, W. W.
Bain, May C.
Colquhoun, Edith J.
Collins, Edith C.
Jones, Florence M. de V.
Heney, Dora E.
Lambourne, N. T.
Mackie, L. J. M.
Moore-Jones, Winifred L.
Ward, H. H.

APPLIED MATHEMATICS.

Class I.

Ziman, S. N.
Mead, A. D.
Aldridge, W. G.
Hansen, D. E.
Kempthorne, L. S.

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Class II.

Kirkbride, Mary F.

Class III.

Lewis, Florence

PHYSICS.

Class I.

Ziman, S. N.
Worley, F. P.
Aldridge, W. G.

Class II.

Mead, A. D.
Hansen, D. E.
Kempthorne, L. S.

Class III.

Tendall, C. S.

CHEMISTRY.

Junior.

Class II.

Mead, A. D.
Tendall, C. S.

Class III.

Fendall, Phyllis

Senior.

Class I.

Caradus, E.
Adams, J. H.

Class II.

Kempthorne, L. S.
Castle, J. G. T.

PRACTICAL CHEMISTRY.

Junior.

Fendall, Phyllis
Mead, A. D.
Thompson, J. F.

Senior.

Adams, J. H.
Caradus, E.
Castle, J. G. T.
Hansen, D. E.
Kempthorne, L. S.

BIOLOGY.

Class I.

Haselden, Ella
Lewis, Florence M. L.

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Class II.

Scott, Winifred M.
Castle, J. G. T.
Kempthorne, L. S.
Hay, Mona C.
Green, A. W.
Avery, W. W.

Class III.

Bain, May C.
Tendall, C. S.
Webster, A.
Wilson, F. R.

PRACTICAL BIOLOGY.

Senior.

Green, A. W.
Lewis, Florence M. L.
Kempthorne, L. S.
Scott, Winifred M.
Castle, J. G. T.
Hay, Mona M.

Junior.

Avery, W. W.
Tendall, C. S.
Haselden, Ella
Webster, A.
Wilson, F. R.
Bain, May C.

GENERAL BIOLOGY.

Class II.

Eslick, Violet I.

Class III.

Johnson, Minnie M.
Massicks, Agnes J.

PRACTICAL GENERAL BIOLOGY.

Eslick, Violet I.

JUNIOR BOTANY.

Class II.

Potter, Nellie
Fordyce, Johanna

Class III.

Fleming, J.
Miller, Violet M.

PRACTICAL BOTANY.

Junior.

Potter, Nellie
Fordyce, Johanna
Miller, Violet M.
Fleming, J.

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Honours.

Griffin, Elsie M.

BOTANY.

Advanced.

Class I.

Ironside, Anne F.

GEOLOGY.

Class I.

Adams, J. H.
Worley, F. P.
Hansen, D. E.
Ziman, S. N.

Class III.

Hill, H.
Snadden, G.
Tobin, C. E. O'H.

PRACTICAL GEOLOGY.

Senior.

Ziman, S. N.
Adams, J. H.
Worley, F. P.
Hansen, D. E.
Shanahan, E.

Junior.

Hill, H.
Snadden, G.

Honours.

Hovell, R. R. S.

ACOUSTICS.

Class I.

Rhodes, Edith M.

Class II.

Caulier, Ethel

Class III.

Lovatt, O. L.

MENTAL SCIENCE.

Class III.

Burns, H. K.
Mackie, L. J. M.
Warren, T. F.

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ECONOMICS AND HISTORY.

Class II.

Chitty, E.
Lambourne, N. T.
Warren, T. F.
Burns, H. K.

Class III.

Castle, J. G. T.
Heney, Dora
Short, A W.
Bowen, Rosanna
Moore-Jones, Winifred L.

ACCOUNTING.

Class I.

Sinclair, Oliver W. H.

Class II.

Robinson, T.

Class III.

Massicks, Agnes J.

MUSIC.

Composition

(Recitative and Part-Song).

Bellingham, W. J.
Phillips, S. K.

Advanced Division.

Class I.

Kendon, M. L.
Sprague, Hettie

Class II.

Collis, Kate

Class III.

Brown, E.
Hughes, Violet
Osborne, Beatrice

Intermediate Division.

Class I.

Henry, Daisy

Class II.

Rhodes, Edith M.
Caulier, Ethel

Class III.

Blampied, Hilda
Lamb, Henry
Probert, Elsie
Webb, M. L.

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ANNUAL EXAMINATION.

JUNIOR DIVISION.

CLASS I.

DENZ, FRANCIE
MORTON, F. H.
BARTHOW, ADELA
GILMOUR, F. E. C.

CLASS II.

LANGTON, M.
DUMERGUE, CUSHLA

CLASS III.

BUTLER, NELLIE

ASSOCIATES OF THE SCHOOL OF MUSIC.

1897.

ADAMS, J. M.
ANDERSON, E. M.
BAKER, I.
DENNISON, A.
ENGLAND, W. J.
MOORE-JONES, A. F.
KENT, E.
LOUCH, C.
MYERS, E.
STUART, A. H.

1898.

BRABANT, E.
BUTLER, E.
FARRELL, M.
LEYS, W.
MCDOUGALL, N.
PEAK, M.
THOMSOM, L.
VERRALL, A. H.
WEBB, E.

1899.

ATKINS, M.
BLAMPIED, MRS.
BOULTON, E.
LEWIS, S.

1900—None.

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1901.

ALLEN, M. C. | LOWTHER, V. E.

1902.

BINSTED, R. | MASON, W.
GRAINGER, B. | PHILLIPS, S. K.

1903.

HUNT, H. G. | SWALES, L.
HAMPSON, M. | HANNA, P.
GIBBONS, J. | BLADES, M.

1904.

HEATH, MRS. | BROWN, E.
PATRICK, M. | BELLINGHAM, W. J.
HUGHES, V.

1905.

LOVATT, C. | RHODES, E.

FELLOWSHIP OF THE SCHOOL OF MUSIC.

1904.

BINSTED, R. | GRAINGER, B.

1905.

HUGHES, V. | KENDON, M. L.
BROWN, E. | BELLINGHAM, W. J.

TEACHER'S CERTIFICATE OF THE SCHOOL OF MUSIC.

1905—MOSES, R.

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PREMIUMS.

Latin : HANSEN, D. E.

English : WELHAM, ALMA A.

Mathematics (Pure) : ALDRIDGE, W. G.

Applied Mathematics : MEAD, A. D.

Chemistry : ADAMS, J. H.

Physics : ALDRIDGE, W. G.

Biology : HASELDEN, ELLA

Geology : ADAMS, J. H.

French : CARADUS, E.

Jurisprudence : BELL, R. ROWAN

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Presentations to the College Library.

DURING 1905.

FROM BUREAU OF EDUCATION, WASHINGTON—
Report of Commissioners of Education for 1903, Vols. I. and II.

FROM CANTERBURY COLLEGE—
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Year Book, 1904-05.
Year Book, 1905-06.

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Prospectus, 1905.

FROM GLASGOW UNIVERSITY—
Calendar, 1905-06.

FROM HARVARD UNIVERSITY—
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Contributions from the Jefferson Physical Laboratory, 2 Vols., 1904.

FROM JOHNS HOPKINS UNIVERSITY—
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Calendar, 1905-06.

FROM MESSRS. MACMILLAN AND CO.—
Ballads, Old and New, Parts I. and II., edited by Cotterill.
Chatham, by Harrison.
Earle—Heroes of Asgard.
English Men of Action—Sir Walter Raleigh.

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English Men of Action—Sir Rennell Rodd.
English Men of Letters—Andrew Marvell.
English Men of Letters—Sir Thomas Broune.
English Men of Letters—Adam Smith, edited by Hirst.
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Hall and Stevens—Exercises and Practical Geometry.
Hadley—Magnetism and Electricity.
Kingsley—Water Babies.
London Lyrics.
Longfellow's Shorter Poems.
Macaulay—Essay on Sir Wm. Temple, edited by Twentyman.
Macaulay's Addison, edited by Winch.
Moore, Thomas, by Gwynn.
New Globe Reader.
Pepy's Diary, edited by G. Gregory Smith.
Rossetti—Poems.
Scott—Talisman.
Scott—Fortunes of Nigel.
Scott—Ivanhoe.
Scott—Woodstock.
Shakespeare's Two Gentlemen of Verona, edited by Deighton.
Smith, Sydney, by Russell.
Smith, Captain John, by Bradley.
Tales from Spenser, edited by Maclehose.
Tennyson—Idylls of the King.
The Tale of Troy, re-told in English by Audrey Stewart.
Yonge—Book of Golden Deeds, Part I.

From the New Zealand Institute—
Transactions and Proceedings, 1904, Vol. XXXVII.

From North-Western University—
Bulletin, 1904-05, 2 Copies.

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Livraison No. 5 Carte Géologique Internationale de l'Europe, with 5 sheets of maps.

From Smith College—
Official Circular, Series I., No. 2.

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FROM ST. ANDREW'S UNIVERSITY—
Calendar, 1905-06.

FROM TOWNSEND A. JUSTIN—
The Inner Light.
Mystic Poems.

FROM UNIVERSITY OF ADELAIDE—
Calendar, 1905.
Manual of the Public Examinations Board.

FROM UNIVERSITY OF CHICAGO—
Annual Register, 1898-99, 1899 to date, Six Vols.

FROM UNIVERSITY OF LEEDS—
First Report, 1903-04.
Calendar, 1905-06.

FROM UNIVERSITY OF LIVERPOOL—
Calendar, 1905.

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Calendar, 1905-06.

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Eight Pamphlets.

FROM VASSAR COLLEGE—
Catalogue, 1904-05.

FROM VICTORIA COLLEGE—
Calendar, 1905.

Proceedings of Engineers' Society of Western Pennsylvania, Vol. XXI., No. 5.

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FORM OF LEGACY.

I give (free from legacy duty) the sum of pounds to the Auckland University College, established at Auckland by "The Auckland University College Act, 1882," and I declare that the receipt of the Registrar for the time being of the said College shall be a sufficient discharge for the said legacy.

NOTE.—If any special direction or condition is to be attached to the Legacy, insert it here.

FORM OF ATTESTATION FOR A WILL.

Signed by the testator as and for his last will and testament, in the sight and presence of us together, who in his sight and presence, at his request and in the sight and presence of each other, have hereunto subscribed our names as witnesses.

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APPENDIX.

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v.

ANNUAL EXAMINATION,

October, 1905.

LATIN TRANSLATION.

Examiner: PROFESSOR TALBOT-TUBBS.

N.B.—*Candidates* MUST *attempt question* 3.

1. Translate :—

(a) Haec cogitanti accidere visa est facultas bene gerendae rei. Nam cum in minora castra operis perspiciendi causa venisset, animum advertit collem, qui ab hostibus tenebatur, nudatum hominibus, qui superioribus diebus vix prae multitudine cerni poterat. Miratus quaerit ex perfugis causam, quorum magnus ad eum cotidie numerus confluebat. Constabat inter omnes, quod iam ipse Caesar per exploratores cognoverat, dorsum esse eius iugi prope aequum, sed hunc silvestrem et angustum, qua esset aditus ad alteram partem oppidi: vehementer huic illos loco timere nec iam aliter sentire, uno colle ab Romanis occupato, si alterum amisissent. quin paene circumvallati atque omni exitu et pabulatione interclusi viderentur: ad hunc muniendum homines a Vercingetorige evocatos.

(Explain the military position; illustrate by a plan.)

(b) Quos ille multa iam nocte silentio ex fuga excepit veritus, ne qua in castris ex eorum concursu et misericordia vulgi seditio oreretur, ut procul in via dispositis familiaribus suis principibusque civitatum disparandos deducendosque ad suos curaret, quae cuique civitati pars castrorum ab initio obvenerat.

(c) Hoc intermisso spatio duas fossas XV pedes latas, eadem altitudine perduxit, quarum interiorem campestribus ac demissis locis aqua ex flumine derivata complevit. Post eas aggerem ac vallum XII pedum exstruxit. Huic loricam

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pinnasque adiecit, grandibus cervis eminentibus ad commissuras pluteorum atque aggeris, qui ascensum hostium tardarent, et turres toto opere circumdedit. quae pedes LXXX inter se distarent.

(Comment briefly on this passage.)

(*d*) Utrimque clamore sublato excipit rursus ex vallo atque omnibus munitionibus clamor. Nostri omissis pilis gladiis rem gerunt. Repente post tergum equitatus cernitur; cohortes aliae appropinquant. Hostes terga vertunt; fugientibus equites occurrunt. Fit magna caedes.

(*e*) quodsi me noles usquam discedere, reddes
forte latus, nigros angusta fronte capillos,
reddes dulce loqui, reddes ridere decorum et
inter vina fugam Cinarae maerere protervae.
forte per angustam tenuis volpecula rimam
repserat in cumeram frumenti, pastaque rursus
ire foras pleno tendebat corpore frustra.
cui mustela procul 'si vis,' ait, 'effugere istinc,
macra cavum repetes artum, quem macra subisti.

(*f*) quidquid sub terra est, in apricum proferet aetas,
defodiet condetque nitentia. cum bene notum
porticus Agrippae et via te conspexerit Appi,
ire tamen restat, Numa quo devenit et Ancus.
si latus aut renes morbo temptantur acuto,
quaere fugam morbi. vis recte vivere: quis non?
si virtus hoc una potest dare, fortis omissis
hoc age deliciis. virtutem verba putas et
lucum ligna: cave ne portus occupet alter,
ne Cibyratica, ne Bithyna negotia perdas;
mille talenta rotundentur, totidem altera, porro et
tertia succedant et quae pars quadrat acervum.

(*g*) alter in obsequium plus aequo pronus et imi
derisor lecti sic nutum divitis horret,
sic iterat voces et verba cadentia tollit,
ut puerum saevo credas dictata magistro
reddere vel partes mimum tractare secundas;

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alter rixatur de lana saepe caprina,
propugnat nugis armatus : 'scilicet ut non
sit mihi prima fides et, vere quod placet, ut non
acriter elatrem ? pretium aetas altera sordet.'
ambigitur quid enim ? Castor sciat an Docilis plus.

(*h*) si prodesse tuis pauloque benignius ipsum
te tractare voles, accedes siccus ad unctum.
'si pranderet holus patienter, regibus uti
nollet Aristippus.' 'si sciret regibus uti,
fastidiret holus, qui me notat.' utrius horum
verba probes et facta, doce, vel iunior audi
cur sit Aristippi potior sententia. namque
mordacem Cynicum sic eludebat, ut aiunt :
'scurror ego ipse mihi, populo tu : rectius hoc et
splendidius multo est.'

2. (*a*) Criticize Caesar's strategy in the campaigns against Vercingetorix.

(*b*) Are the Epistles poetry ? Discuss fully.

(*c*) What difficulties present themselves in regard to the description of Caesar's lines before Alesia ? Discuss them.

(*d*) State and examine difficulties of interpretation, date, etc., arising in connection with Ep. v, si potes Archiacis—*or* Ep. xiv, Vilice silvarum.

3. Render into English :—

(*a*) eo minus sibi cessandum ratus, quo illi segnius rem agerent, Masinissam cum equitatu praemissum portis obequitare atque hostem ad pugnam elicere iubet. ubi omnis multitudo se effudisset, graviorque iam in certamine esset, quam ut facile sustineri posset, cederet paulatim : se in tempore pugnae obventurum. tantum moratus, quantum satis temporis praegresso visum ad eliciendos hostes, cum Romano equitatu secutus, tegentibus tumulis, qui peropportune circa viae flexus oppositi erant, occultus processit. Masinissa ex composito, nunc terrentis nunc timentis modo, aut ipsis obequitabat portis, aut cedendo, cum timoris simulatio audaciam hosti faceret, ad insequendum temere eliciebat. nondum omnes egressi erant, varieque dux fatigabatur, alios vino et somno

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graves arma capere et frenare equos cogendo, aliis, ne sparsi et inconditi sine signis omnibus portis excurrerent, obsistendo. primo incaute se evehentes Masinissa excipiebat; mox plures simul conferti porta effusi aequaverant certamen; postremo iam omnis equitatus proelio cum adesset, sustineri ultra nequiere. non tamen effusa fuga Masinissa sed cedendo sensim impetus eorum accipiebat, donec ad tumulos tegentes Romanum equitatum pertraxit. LIVY.

(b) non es avarus: abi. quid? cetera iam simul isto
cum vitio fugere? caret tibi pectus inani
ambitione? caret mortis formidine et ira?
somnia, terrores, magicos, miracula, sagas,
nocturnos lemures portentaque Thessala rides?
natales grate numeras? ignoscis amicis?
lenior et melior fis accedente senecta?
quid te exempta levat spinis de pluribus una?
vivere si recte nescis, decede peritis.
lusisti satis, edisti satis atque bibisti:
tempus abire tibi est. HORACE.

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ANNUAL EXAMINATION.

LATIN COMPOSITION AND GRAMMAR.

Examiner: Professor Talbot-Tubbs.

1. Translate into Latin :—

(*a*) *For Students intending to complete their first year.*

There is no doubt that it is difficult to decide who amongst the ancients was the ablest general. There are some who are ready at once to answer "Alexander, because with so small an army he subdued so great a part of the world, and created so vast an empire." Others, perhaps, say "Pyrrhus." But most assign the first place to Hannibal; and if we were to ask their reason they would tell us he was the first to make war feed itself (bello bellum comparare). We are inclined to think they are right: for whether we consider how many years Hannibal was able to continue the struggle, or how powerful was the enemy against whom he was matched, he deserves equally to excite our highest admiration.

(*b*) *For all others.*

As soon as this was known the disappointed adventurers exclaimed and threatened: the emissaries of Cortes, mingled with them, inflamed their rage: the ferment became general: the whole camp was almost in open mutiny, all demanding to see their commander. Cortes was not slow in appearing: when, with one voice, officers and soldiers expressed their astonishment and disappointment at the orders which they had received. It was unworthy, they cried, of the Castilian courage to be daunted at the first aspect of danger, and infamous to fly before any enemy appeared. For their parts

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they were determined not to relinquish an enterprise which tended so visibly to advance the glory and the interest of their country: but if he chose tamely to give up his hopes of distinction and opulence to an envious rival they would instantly choose another general to conduct them in that path of glory which he had not spirit to enter.

2. Write down :—

(*a*) *Gen. sing., gender, meaning* of finis, funis, seges, sors, caro, fur, fors, far, ren, pugil, vigil.

(*b*) *Chief parts* (without meaning added) of insisto, insto, instituo, insero, pergo, abigo, insilio, desino.

(*c*) *Latin* for 3, 30, 33 times, 300 a piece, "on every third day," "three times a year," $\frac{1}{3}$, $\frac{2}{3}$, 3×2, $3 - 2$, $9 \div 3$, 339, "three is fifty per cent. more than two."

(*d*) Put in agreement with the following an adjective (1) of the 1st and 2nd ($a - o$) declension, (*b*) of the 3rd (consonantal and $\imath$-declension), viz. :—Impetu, colori, laurŭs, loca, odio sum, receptui canere.

3. (1) Discuss the Latin usage of the Dependent (Reported) Question. Give rules and examples (your own or quoted).

(2) What is meant by the "Jussive in Quasi-Dependence"? Explain the usage, and illustrate. What constructions are correct Latin with e.g. oportet.

(3) Are the following transitive or intransitive? Can they, and with what limitations, be used as both? viz. :—Verto vertor versor, muto, moveo, recipere, volvo, volo, incipiò.

4. Comment briefly upon the syntax, &c., of the following :—

(*a*) rexque paterque audisti coram.

(*b*) nec si te iactaverit Auster, idcirco navem vendas.

(*c*) non mihi Cumas est iter.

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(*d*) existimabant (se) vel- vi (Allobroges) coacturos esse ut per suos fines eos ire paterentur.

(*e*) quod ei veteris contumeliae oblivisci vellet, num etiam recentium iniuriarum, quod eo invito iter temptassent, memoriam deponere posse?

(*f*) Quod sua victoria tam insolenter gloriarentur, quodque tam diu se impune iniurias tulisse admirarentur, eodem pertinere.

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ANNUAL EXAMINATION.

GREEK TRANSLATION.

Examiner: PROFESSOR TALBOT-TUBBS.

1. Translate :—

(*a*) ἐπεὶ καὶ τῷ πλήθει τῶν νεῶν οὐκ ὠφελήσονται, εἴ τις καὶ τόδε ὑμῶν, ὅτι οὐκ ἴσαις ναυμαχήσει, πεφόβηται· ἐν ὀλίγῳ γὰρ πολλαὶ ἀργότεραι μὲν ἐς τὸ δρᾶν τι ὧν βούλονται ἔσονται, ῥᾳσταὶ δὲ ἐς τὸ βλάπτεσθαι ἀφ' ὧν ἡμῖν παρεσκεύασται. τὸ δ' ἀληθέστατον γνῶτε, ἐξ ὧν ἡμεῖς οἰόμεθα σαφῶς πεπύσθαι· ὑπερβαλλόντων γὰρ αὐτοῖς τῶν κακῶν καὶ βιαζόμενοι ὑπὸ τῆς παρούσης ἀπορίας ἐς ἀπόνοιαν καθεστήκασιν οὐ παρασκευῆς πίστει μᾶλλον ἢ τύχης ἀποκινδυνεῦσαι οὕτως ὅπως δύνανται, ἵν' ἢ βιασάμενοι ἐκπλεύσωσιν ἢ κατὰ γῆν μετὰ τοῦτο τὴν ἀποχώρησιν ποιῶνται, ὡς τῶν γε παρόντων οὐκ ἂν πράξαντες χεῖρον.

(*b*) πρὸς δ' αὐτοῖς Αἰολῆς, Μηθυμναῖοι μὲν ναυσὶ καὶ οὐ φόρῳ ὑπήκοοι, Τενέδιοι δὲ καὶ Αἴνιοι ὑποτελεῖς. οὗτοι δὲ Αἰολῆς Αἰολεῦσι τοῖς κτίσασι Βοιωτοῖς [μετὰ Συρακοσίων] κατ' ἀνάγκην ἐμάχοντο, Πλαταιῆς δὲ καὶ ἄντικρυς Βοιωτοὶ Βοιωτοῖς μόνοι εἰκότως κατ' ἔχθος.

(*c*) τοῖς δὲ Ἀθηναίοις οὐκ ἔσεσθαι σφῶν ἐν στενοχωρίᾳ οὔτε περίπλουν οὔτε διέκπλουν, ᾧπερ τῆς τέχνης μάλιστα ἐπίστευον· αὐτοὶ γὰρ κατὰ τὸ δυνατὸν τὸ μὲν οὐ δώσειν διέκπλουν, τὸ δὲ τὴν στενοχωρίαν κωλύσειν ὥστε μὴ περιπλεῖν. τῇ τε πρότερον ἀμαθίᾳ τῶν κυβερνητῶν δοκούσῃ εἶναι, τῷ ἀντίπρῳρον ξυγκροῦσαι, μάλιστ' ἂν αὐτοὶ χρήσασθαι· πλεῖστον γὰρ ἐν αὐτῷ σχήσειν· τὴν γὰρ ἀνάκρουσιν οὐκ ἔσεσθαι τοῖς Ἀθηναίοις ἐξωθουμένοις ἄλλοσε ἢ ἐς τὴν γῆν, καὶ ταύτην δι' ὀλίγου καὶ ἐς ὀλίγον, κατ' αὐτὸ τὸ στρατόπεδον τὸ ἑαυτῶν· τοῦ δ' ἄλλου

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ANNUAL EXAMINATION.

λιμένος αὐτοὶ κρατήσειν, καὶ ξυμφερομένους αὐτούς, ἢν πη βιάζωνται, ἐς ὀλίγον τε καὶ πάντας ἐς τὸ αὐτό, προσπίπτοντας ἀλλήλοις ταράξεσθαι· ὅπερ καὶ ἔβλαπτε μάλιστα τοὺς Ἀθηναίους ἐν ἁπάσαις ταῖς ναυμαχίαις, οὐκ οὔσης αὐτοῖς ἐς πάντα τὸν λιμένα τῆς ἀνακρούσεως, ὥσπερ τοῖς Συρακοσίοις· περιπλεῦσαι δὲ ἐς τὴν εὐρυχωρίαν, σφῶν ἐχόντων τὴν ἐπίπλευσιν ἀπὸ τοῦ πελάγους τε καὶ ἀνάκρουσιν, οὐ δυνήσεσθαι αὐτούς, ἄλλως τε καὶ τοῦ Πλημμυρίου πολεμίου τε αὐτοῖς ἐσομένου καὶ τοῦ στόματος οὐ μεγάλου ὄντος τοῦ λιμένος.

Add a short account of the manœuvres here referred to. Explain their suitability, and give a brief description of an Athenian man-of-war.

(*d*) ΑΛΛ. καὶ μὴν ὁ Παφλαγὼν οὑτοσὶ προσέρχεται,
ὠθῶν κολόκυμα καὶ ταράττων καὶ κυκῶν,
ὡς δὴ καταπιόμενός με. μορμὼ τοῦ θράσους.
ΚΛ. εἰ μή σ' ἀπολέσαιμ', εἰ τι τῶν αὐτῶν ἐμοὶ
ψευδῶν ἐνείη, διαπέσοιμι πανταχῆ.
ΑΛΛ. ἤσθην ἀπειλαῖς, ἐγέλασα ψολοκομπίαις,
ἀπεπυδάρισα μόθωνα, περιεκόκκασα.
ΚΛ. οὔ τοι μὰ τὴν Δήμητρά γ', εἰ μή σ' ἐκφάγω
ἐκ τῆσδε τῆς γῆς, οὐδέποτε βιώσομαι.
ΑΛΛ. εἰ μὴ 'κφάγῃς μ'; ἐγὼ δέ γ', εἰ μή σ' ἐκπίω,
κῷτ' ἐκροφήσας αὐτὸς ἐπιδιαρραγῶ.
ΚΛ. ἀπολῶ σε νὴ τὴν προεδρίαν τὴν ἐκ Πύλου.
ΑΛΛ. ἰδοὺ προεδρίαν· οἷον ὄψομαί σ' ἐγὼ
ἐκ τῆς προεδρίας ἔσχατον θεώμενον.
ΚΛ. ἐν τῷ ξύλῳ δήσω σε νὴ τὸν οὐρανόν·
(*e*) ΧΟΡ. ὦ Δῆμε, καλήν γ' ἔχεις
ἀρχήν, ὅτε πάντες ἄν—
θρωποι δεδίασί σ' ὥσ—
περ ἄνδρα τύραννον.
ἀλλ' εὐπαράγωγος εἶ,
θωπευόμενός τε χαί—

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ρεις κἀξαπατώμενος,
πρὸς τόν τε λέγοντ' ἀεὶ
κέχηνας· ὁ νοῦς δέ σου
παρὼν ἀποδημεῖ.

ΔΗ. νοῦς οὐκ ἔνι ταῖς κόμαις
ὑμῶν, ὅτε μ' οὐ φρονεῖν
νομίζετ'· ἐγὼ δ' ἑκὼν
ταῦτ' ἠλιθιάζω.
αὐτός τε γὰρ ἥδομαι
βρύλλων τὸ καθ' ἡμέραν,
κλέπτοντά τε βούλομαι
τρέφειν ἕνα προστάτην·
τοῦτον δ', ὅταν ᾖ πλέως,
ἄρας ἐπάταξα.

(*f*) ΔΗΜ. εἰπέ μοι, Παφλαγὼν τί δρᾷ;

ΝΙΚ. ἐπίπαστα λείξας δημιόπραθ' ὁ βάσκανος
ῥέγκει μεθύων ἐν ταῖσι βύρσαις ὕπτιος.

ΔΗΜ. ἴθι νυν, ἄκρατον ἐγκάναξόν μοι πολὺν
σπονδήν.

ΝΙΚ. λαβὲ δὴ καὶ σπεῖσον ἀγαθοῦ δαίμονος.

ΔΗΜ. ἕλχ' ἕλκε τὴν τοῦ δαίμονος τοῦ Πραμνίου.
ὦ δαῖμον ἀγαθέ, σὸν τὸ βούλευμ', οὐκ ἐμόν.

ΝΙΚ. εἶπ', ἀντιβολῶ, τί ἔστι;

ΔΗΜ. τοὺς χρησμοὺς ταχὺ
κλέψας ἔνεγκε τοῦ Παφλαγόνος ἔνδοθεν,
ἕως καθεύδει. ΝΙΚ. ταῦτ'. ἀτὰρ τοῦ δαίμονος
δέδοιχ' ὅπως μὴ τεύξομαι κακοδαίμονος.

ΔΗΜ. φέρε νυν ἐγὼ 'μαυτῷ προσαγάγω τὸν χόα,
τὸν νοῦν ἵν' ἄρδω καὶ λέγω τι δεξιόν.

2. (*a*) Estimate the political meaning, value, and tendency of Aristophanic comedy.

(*b*) Make a plan of Syracuse and its environs. Discuss any difficulties that there may be in determining the position, &c., of parts of the investing lines or the counter works of the besieged.

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3. **Translate into English from books not prescribed :—**

(*a*) ἐπειδὴ δὲ αἱ νῆες πλήρεις ἦσαν καὶ ἐσέκειτο πάντα ἤδη ὅσα ἔχοντες ἔμελλον ἀνάξεσθαι, τῇ μὲν σάλπιγγι σιωπὴ ὑπεσημάνθη, εὐχὰς δὲ τὰς νομιζομένας πρὸ τῆς ἀναγωγῆς οὐ κατὰ ναῦν ἑκάστην, ξύμπαντες δὲ ὑπὸ κήρυκος ἐποιοῦντο, κρατῆράς τε κεράσαντες παρ' ἅπαν τὸ στράτευμα καὶ ἐκπώμασι χρυσοῖς τε καὶ ἀργυροῖς οἵ τε ἐπιβάται καὶ οἱ ἄρχοντες σπένδοντες. ξυνεπηύχοντο δὲ καὶ ὁ ἄλλος ὅμιλος ὁ ἐκ τῆς γῆς τῶν τε πολιτῶν καὶ εἴ τις ἄλλος εὔνους παρῆν σφίσι. παιανίσαντες δὲ καὶ τελεώσαντες τὰς σπονδὰς ἀνήγοντο, καὶ ἐπὶ κέρως τὸ πρῶτον ἐκπλεύσαντες ἅμιλλαν ἤδη μέχρι Αἰγίνης ἐποιοῦντο. καὶ οἱ μὲν ἐς τὴν Κέρκυραν, ἔνθαπερ καὶ τὸ ἄλλο στράτευμα τῶν ξυμμάχων ξυνελέγετο, ἠπείγοντο ἀφικέσθαι. THUCYDIDES.

(*b*) ΧΟ. καὶ σ' ἐν ἀφύκτοισι χερῶν εἷλε θεὰ δεσμοῖς·
τόλμα δ'· οὐ γὰρ ἀνάξεις ποτ' ἔνερθεν
κλαίων τοὺς φθιμένους ἄνω.
καὶ θεῶν σκότιοι φθίνουσι
παῖδες ἐν θανάτῳ.
φίλα μὲν ὅτ' ἦν μεθ' ἡμῶν,
φίλα δ' ἔτι καὶ θανοῦσα·
γενναιοτάταν δὲ πασᾶν
ἐξεύξω κλισίαις ἄκοιτιν.
μηδὲ νεκρῶν ὡς φθιμένων χῶμα νομιζέσθω
τύμβος σᾶς ἀλόχου, θεοῖσι δ' ὁμοίως
τιμάσθω, σέβας ἐμπόρων.
καί τις τὸν τάφον παρελθὼν
προσλεύσσων τόδ' ἐρεῖ·
"αὔτα ποτὲ προύθαν' ἀνδρός,
νῦν δ' ἐστὶ μάκαιρα δαίμων·
χαῖρ', ὦ πότνι', εὖ δὲ δοίης."
τοῖαί νιν προσεροῦσι φῆμαι. EURIPIDES.

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GREEK COMPOSITION.

Examiner: Professor Talbot-Tubbs.

1. Translate into Greek :—

   The general reported that the garrison had been attacked by the enemy during the night and made prisoners. They had been warned the day before by some native spies, who had overheard a conversation in the enemy's lines, that an assault was intended. This afterwards proved to have been a trick: the natives were known to be present and were purposely led astray as to the direction of the attack. At any rate the commander had withdrawn his men from the river to strengthen his outposts on the north of the town where the attack was expected: this was in fact the weak point in the defensive lines. Soon after midnight the lower ford had been crossed by a picked body of the enemy who were in the streets of the town and indeed in the citadel before anything was known of their presence.

2. Parse fully (if verb, add chief parts) εἶς, εἶ, ἰεἰς, ἴς, ἴσα, εἶσα, ἵστη, ἵστον, ἔσθην, εἰκός εἰκών εἶκων.

3. Write down the Greek for 5. 15. 25.: 7012: "four abreast:" "a week:" "the 21st of the month:" "immediately after the opening of the summer campaign."

4. Tabulate, *with examples*, the typical forms of conditional sentences. Are the following syntactically correct? If not, explain the irregularity :—

   (*a*) Ἀλλ' οὐκ ἂν οἶει ὅτι τοῦτ' ἂν αὐτὸς πράττοι, εἴ τι δέοι.

   (*b*) ἀλλ' εἰ γένοιτο ταῦτα, μηδὲν δεῖ φοβεῖσθαι.

   (*c*) ὅστις ἂν ταῦτα πράττῃ, εἰκός ἐστι τοῦτον μηδαμῶς ὑπὸ τῶν τριάκοντα ἀποθανεῖν.

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5. Discuss the following constructions :—

πρόφασιν μὲν Ἀργείους φίλους ἡμῖν πόει—ὅπως τὰ κάλλαια ἀποφαγών ἥξεις πάλιν—οὔτ' ἠρνοῦντο μὴ οὐ πεπτωκέναι—δεινά γ' ὦ Πόσειδον εἰ μηδ' ἐν βυθῷ δυνήσομαι διαφυγεῖν—εἰ γὰρ ὤφελον, ὦ Κρίτων, οἷοί τε εἶναι οἱ πολλοὶ . . ἐξεργάζεσθαι—οὐκ ἂν ἔχοις ἐξελθών ὅτι χρῷο σαυτῷ—σὺ γὰρ, ὅσα γε τἀνθρώπεια, ἐκτὸς εἶ τοῦ μέλλειν ἀποθνήσκειν.

6. Translate into Greek :—

He did it unperceived of all—I am afraid he has not succeeded—"We are not" (he says), "worthy to receive"—the enemy plainly intended to offer battle—the ship and all her crew fell into the enemy's hands.

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ANNUAL EXAMINATION.

ENGLISH LANGUAGE AND TEXTS.

Examiner: PROFESSOR EGERTON.

NOTE.—*Candidates who have been attending the Honours course of lectures are requested to omit the first five questions and to substitute those printed at the end of this Paper.*

1. Translate:—

(a) Hēr is mīn cnapa, thone ic gecēas, mīn gecorena, on thæm wel gelīcode mīnre sāwle: ic asette mīnne gāst ofer hine, and dōm hē bodath thēodum.

(b) Betwix thæm the hē clipode to Crīste thāgiet, thā tugon thā hæthnan thone hālgan to slege, and mid ānum swenge slōgon him of thæt heafod, and his sāwol sīthode gesælig to Crīste. Thær wæs sum mann gehende gehealden, thurh God behydd thæm hæthnum the this gehierde eall, and hit eft sægde, swā swā wē hit secgath hēr.

(c) Wis mon halt is wordes inne;
For he nul no gle bygynne,
Er he have tempred is pype.
Sot is sot & that is sene;
For he wol speke wordes grene
Er then hue buen rype
'Sottes bolt is sone shote'
Quoth Hendyng.

2. What is the dialect of (*c*) in the preceding question? Give the reasons of your answer.

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3. Write a note on the influence of Central French upon the English Language.

4. Explain the following terms, giving examples :—Rune, spirant, vowel-fracture, gradation, reduplication, grammatical gender, strong-weak verb.

5. Give an account of the case endings in English pronouns. Trace their history.

6. Explain fully the allegorical significance of Asia in Shelley's *Prometheus Unbound.*

7 Describe the character of Dalila as conceived by Milton. Illustrate your answer by quotations.

8. Give the substance of Carlyle's remarks on "Natural Supernaturalism."

9. What are the most striking characteristics of Shelley's poetic style? Illustrate your answer by examples.

10. Explain the following allusions. State in what context they occur :—

(*a*) Why might he not, did our stern fate so order it, walk out to St. Stephen's as well as into bed in that no-fashion ; and there with similar Radishes hold a Bed of Justice?

(*b*) Perhaps the most remarkable incident in Modern History is not the diet of Worms, still less the Battle of Austerlitz, Waterloo, Peterloo, or any other battle.

(*c*) Close thy Byron ; open thy Goethe.

(*d*) Geryon arise, and Gorgon,
Chimæra and thou Sphinx, subtlest of fiends,
Who ministered to Thebes Heaven's poison'd wine.

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(*e*) Like a stately ship
Of Tarsus, bound for th' isles
Of Javan or Gadire.

(*f*) On both his wings one black, the other white
Bears greatest names in his wild aery flight.

(*g*) Noise call you it, or universal groan
As if the whole inhabitation perish'd!

(*h*) Tomes
Of reason'd wrong glos'd on by ignorance.

11. (To be answered very briefly):—

(*a*) Who was Hofrath Heuschrecke?

(*b*) What is (according to Carlyle) the first preliminary moral act?

(*c*) How is Jael mentioned in *Samson Agonistes*?

(*d*) What details of Samson Agonistes did Milton owe to Josephus?

(*e*) Chorus towards the end of the play describes Samson's final exploit by a series of similtudes. Quote or refer to them.

(*f*) Shelley in *Prometheus Unbound* translates a celebrated line from Dante's *Inferno*. Quote his translation.

(*g*) What is meant by "The Sicilian's hair-suspended Sword"? Where is it mentioned by Shelley?

(*h*) What passage in *Prometheus Unbound* is suggested by a well-known passage in Keats' *Endymion*?

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ANNUAL EXAMINATION.

The following questions are to be answered ONLY *by those Candidates who have attended Honours Lectures in English :—*

1. **Translate—**

(*a*) On thysse abbudissan mynstre wæs sum brōthor synderlice mid godcundre gyfe gemǣred and geweorthad ; for thon hē gewunade gerisenlice leoth wyrcean, thā the tō ǣfastnesse and to ārfastnesse belumpon ; swā thætte swā hwæt swā hē of godcundum stafum thurh bōceras geleornade, thæt hē æfter medmiclum fæce in scopgereorde mid thā mǣstan swētnesse and inbrydnesse geglencde, and in Englisc-gereorde wel gehwǣr forthbrohte.

(*b*) On thære ilcan tide wurdon twegen æthelingas āflīemde of Sciththian, Plenius and Scolopetius wæron hatene, and gefōran thæt land and gebudon betuh Cappadotiam and Pontum nēah thære lǣssan Asiam, and thǣr winnende wæron, oth hīe him thǣr eard genāmon.

(*c*) The fader of the house ate uerste guoinge in : he zette sleythe to by doreward. thet y-knauth huet is to uorlete : and huet is to wylny. huet uor to bessette out of the house. huet uor to onderuonge into the house. Nixt than : ha zette strengthe. thet the vyendes thet sleythe zent to zygge to keste out : strengthe wythdroge.

2. Give a short account of the different developements in Modern English of the Anglo-Saxon 'c.'

3. Write a note on the conjugation of the Anglo-Saxon strong verbs. Show how the gradation verbs fall into two well defined groups.

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ANNUAL EXAMINATION.

ENGLISH LITERATURE.

Examiner: PROFESSOR EGERTON.

(At least one hour should be devoted to the Essay.)

1. Estimate the influence of the Medieval Revival upon English Poetry during the first quarter of the nineteenth century.

2. Discuss Wordsworth's interpretation of Nature. Illustrate by references to passages in his poetry.

3. How is the spirit of the age represented in the poetry of Byron?

4. Briefly trace the developement of the Novel during the period prescribed for your study.

5. Give a short analysis of any two of the following:—Wordsworth's "Immortality Ode"; Coleridge's "Christabel"; Tennyson's "Morte d'Arthur"; Browning's "Saul."

6. Write a note on the contributions of Macaulay to literary criticism.

7. *(a)* Mention the authors of the following works and *briefly* describe them:—"The Paris Sketch Book," "The Doctor," "Frost at Midnight," "Imaginary Conversations," "Woodstock," "Hohenlinden," "Richelieu," "Lamia."

   (b) How are the following names connected with English Literature:—Madge Wildfire, Andrea del Sarto, Barry Lyndon, Steerforth, Mokanna?

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8. Fix the following quotations. In what ways are they charac teristic of their authors?

(*a*) A man's reach should exceed his grasp.

(*b*) I could lie down like a tired child,
And weep away the life of care
Which I have borne and still must bear.

(*c*) . . . the Gods approve
The depth, and not the tumult of the soul;
A fervent, not ungovernable, love.

(*d*) Beauty is truth, truth beauty,—that is all
Ye know on earth, and all ye need to know.

(*e*) There fed by food they love to rankest size,
Around the dwellings docks and wormwood rise;
Here the strong mallow strikes her slimy root,
Here the dull nightshade hangs her deadly fruit.

(*f*) . . . to live by law,
Acting the law we live by without fear;
And because right is right, to follow right
Were wisdom in the scorn of consequence.

(*g*) Brave hearts! to Britain's pride
Once so faithful and so true,
On the deck of fame that died
With the gallant good Riou.

SUBJECTS FOR ESSAY.

(Only one to be chosen.)

1. The Dramatic Form of "Samson Agonistes."
2. The Relation of "Samson Agonistes" to the Age in which it was written.
3. The Teaching of Carlyle as exemplified in "Sartor Resartus."
4. "Prometheus Unbound" considered as an Allegory.

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ANNUAL EXAMINATION.

PURE MATHEMATICS (Ordinary B.A. and B.Sc. Standard).

PAPER *a*.—GEOMETRY AND TRIGONOMETRY.

Examiner: Professor H. W. Segar, M.A.

N.B.—*In determining the order of merit, credit will be included for answers to questions marked with an asterisk, but such answers are not expected in order to qualify for any of the several classes.*

I.

1. Prove the following theorems :—

   (*a*) Angles in the same segment of a circle are equal ; and, if the line joining two points subtends equal angles at two other points on the same side of it, the four points lie on a circle.

   (*b*) The rectangle contained by the diagonals of any quadrilateral is less than the sum of the rectangles contained by its opposite sides—excepting in the case of a cyclic quadrilateral, when the inequality becomes an equality.

   (*c*) The section of a sphere by a plane is a circle.

   (*d*) The volume of any pyramid is equal to one-third of the volume of the prism on the same base and of the same altitude.

2. Show how to draw a normal to a plane from an external point and prove the construction.

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3. In the equal sides AB, AC of an isosceles triangle ABC find points X, Y such that BX = XY = YC. Give a proof.

4. Four points A, B, C, D are taken in order on a straight line; prove algebraically that AB.CD + BC.AD = AC.BD.

5. * ABCD is a quadrilateral inscribed in a circle. DA, CB are produced to meet at E; AB, DC to meet at F. Prove that, if a circle can be drawn through AEFC, then EF is a diameter of this circle, and BD is a diameter of the circle ABCD.

6. XYZ is a triangle inscribed in a circle; the bisector of the angle X meets YZ in P, and the circle in Q: prove that XY : XQ = XP : XZ.

7. * In a given triangle inscribe an equilateral triangle.

8. PA, PB, PC are three concurrent and mutually perpendicular straight lines. PO is perpendicular to the plane ABC. Prove that O is the orthocentre of the triangle ABC.

II.

1. Establish the following relations:—

(*a*) $\sin 0^\circ = 0$;

(*b*) $\cos 60^\circ = \frac{1}{2}$;

(*c*) $\sin 18^\circ = \frac{\sqrt{5} - 1}{4}$;

(*d*) $\cos (180^\circ - \theta) = - \cos \theta$;

(*e*) $\cos 2A = \cos^2 A - \sin^2 A$;

(*f*) $\log_a m^n = n \log_a m$;

(*g*) $\sin A = \frac{2}{bc} \sqrt{s(s-a)(s-b)(s-c)}$;

(*h*) Area of a circle $= \pi r^2$.

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ANNUAL EXAMINATION.

2. Prove the following identities :—

(*a*) $sec^6 A = tan^6 A + 3 tan^2 A sec^2 A + 1$;

(*b*) $sin\ a\ sin\ 2\ a + cos\ a\ cos\ 4\ a = cos\ 2\ a\ cos\ 3\ a$;

(*c*) $cot\ C - cot\ B = \frac{b^2 - c^2}{bc}\ cosec\ A$.

3. From the top of a cliff the depressions of two objects in the same vertical plane, whose distance apart is known to be half a mile, are 38° and 15°. Find the height of the cliff—

L *sin* 38° = 9·78934, L *sin* 23° = 9·59187 ;
L *sin* 15° = 9·41299, *log* 2039 = 3·30942.

4. Solve the equation—

$$sin\ \theta + sin\ 2\ \theta + sin\ 3\ \theta + sin\ 4\ \theta = 0.$$

5. * If I is the centre of the circle inscribed in the triangle ABC, show that the radius of the circle inscribed in the triangle BIC is

$$\sqrt{2}.a\ \frac{sin\ \frac{B}{4}\ sin\ \frac{C}{4}}{cos\ \frac{A}{4} - sin\ \frac{A}{4}}.$$

6. * Show that if θ_1 and θ_2 be values of θ which satisfy the equation—

$$a\ cos\ \theta + b\ sin\ \theta = c$$

then $\frac{cos\ \frac{\theta_1 + \theta_2}{2}}{a} = \frac{sin\ \frac{\theta_1 + \theta_2}{2}}{b} = \frac{cos\ \frac{\theta_1 - \theta_2}{2}}{c}$.

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ANNUAL EXAMINATION.

PURE MATHEMATICS (Ordinary B.A. and B.Sc. Standard).

Examiner: Professor H. W. Segar, M.A.

Paper *b*.—Algebra.

N.B.—*In determining the order of merit, credit will be included for answers to questions marked with an asterisk, but such answers are not expected in order to qualify for any of the several classes.*

1. *(a)* Shew that the square of the sum of any number of algebraical quantities is equal to the sum of their squares together with twice the product of every pair.

(*b*) Find the factors of $ax^2 + bx + c$.

(*c*) Find the meaning of a^{-n} where n is positive. What is meant by this?

(*d*) Shew that if a depends only on b and c, and if a varies as b when c is constant, and varies as c when b is constant, then when both b and c vary, a will vary as bc.

(*e*) Insert n arithmetic means between a and l.

(*f*) Find the number of permutations of n different things taken r at a time, where r is any integer not greater than n

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2. Reduce—

(*a*) $\dfrac{y^3-(2a+b)y^2+(2ab+a^2)y-a^2b}{3y^2-(4a+2b)y+2ab+a^2}$;

(*b*) $\dfrac{x+a}{x-a}+\dfrac{x+b}{x-b}+\dfrac{x+c}{x-c}-3\dfrac{(x+a)(x+b)(x+c)}{(x-a)(x-b)(x-c)}$.

3. Factorize—

$$1-\left\{\frac{a^2+b^2-c^2-d^2}{2(ab+cd)}\right\}^2;$$

and find the H.C.F. of—

$$x^4+4x^2+16 \text{ and } x^4-x^3+8x-8.$$

4. Solve the equations—

(*a*) $(x-1)(x-2)(x-3)=2.3.4.$;

(*b*) $xy+6=3y+2x,\ x+y=5.$

5. Simplify—

$$a\sqrt{a\sqrt{\{a\sqrt{[a\sqrt{(a\sqrt{a})}]}\}}}.$$

6. If

$(a+b+c+d)(a-b-c+d)=(a-b+c-d)(a+b-c-d)$,

prove that a, b, c, d are proportional.

7. Sum the series

$$(a+b)^2+(a^2+b^2)+(a-b)^2+\ .\ .\ .\ .$$

to 20 terms.

8. The ratios of two geometrical progressions having the same number of terms are $\frac{3}{10}$ and $\frac{1}{5}$ respectively, and their first terms are equal. The last term of the first progression is 243, and the last term of the second is 32. Find the elements of each progression.

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9. Find the 15th term in the expansion of $\left(a^3 + \frac{1}{a}\right)^{20}$.

10. *Write down the general terms of

$$(a^2 - x^2)^{\frac{2}{3}} \text{ and } (a^2 + x^2)^{-\frac{2}{3}}.$$

11. *Given S the sum, and s^2 the sum of the squares, of the terms of an infinite G.P., shew that its sum to n terms

$$= S\left\{1 - \left(\frac{S^2 - s^2}{S^2 + s^2}\right)^n\right\}.$$

12. *To complete a piece of work, A takes m times as long as B and C together, B, n times as long as C and A together, and C, p times as long as A and B together: shew that—

$$\frac{1}{m+1} + \frac{1}{n+1} + \frac{1}{p+1} = 1.$$

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XXX.

ANNUAL EXAMINATION.

APPLIED MATHEMATICS (Ordinary B.A. and B.Sc. Standard), MECHANICS AND HYDROSTATICS.

Examiner: Professor H. W. Segar, M.A.

N.B.—*In determining the order of merit, credit will be included for answers to questions marked with an asterisk, but such answers are not expected in order to qualify for any of the several classes.*

1. (*a*) **Prove the formula—**

$$s = ut + \tfrac{1}{2}at^2.$$

(*b*) Investigate the motion of two masses M and m connected by an inextensible string passing over a smooth peg.

(*c*) Shew that if a particle move with uniform speed v in a circle it has an acceleration $\frac{v^2}{r}$ toward the centre.

2. A hammer of mass 2lbs. hits a nail with a velocity of 40 ft. per second and drives it into a board to the depth of half an inch; find the average force exerted on the nail and the duration of the impulse.

3. Prove that a piece of mud thrown from the top of a cab wheel of diameter d feet, the cab moving with velocity v feet per second, will when it strikes the ground be at a distance $\frac{1}{4}v\sqrt{d}$ in front of the position then occupied by the point of contact of the wheel with the ground.

4. *Three particles of equal mass are placed at the angular points A,B,C of an equilateral triangle and A,B are connected with C by equal strings which are just taut. C is projected perpendicularly towards A B. Find the loss of kinetic energy after A and B are jerked into motion.

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5. (*a*) State and prove the theorem known as the triangle of forces.

(*b*) Shew that the algebraical sum of the moments of a number of coplanar forces acting at a point about any point in their plane is equal to the moment of their resultant about the same point.

(*c*) Find the C. G. of a triangular plate.

(*d*) Describe the Roman steelyard and its graduation.

6. ABC is a triangle and D,E,F are points on the sides BC, CA, AB such that BD : DC = CE : EA = AF : FB ; prove that the sum of the moments of forces represented by AD, BE, CF about A,B,C respectively are all equal.

7. Shew that the C.G. of a plane quadrilateral cannot coincide with that of four equal particles placed at its angular points unless the quadrilateral be a parallelogram.

8. In the system of pulleys in which each string is attached to the weight, if there are five moveable pulleys each weighing half a pound, and the weight is 35 lbs., what is the power?

9. *A heavy triangle ABC is hung up by the angle A, and the opposite side is inclined at angle α to the horizon, shew that—

$$2 \tan \alpha = \cot B - \cot C.$$

10. *One end of a beam whose weight is W, is placed on a smooth horizontal plane ; the other end, to which a string is fastened, rests against another smooth plane inclined at an angle α to the horizon ; the string passing over a pulley at the top of the inclined plane hangs vertically, supporting a weight P. Shew that the beam will rest in all positions if

$$2 P = W \sin \alpha.$$

11. (*a*) Find the specific gravity of a mixture having given (i) the weights, and (ii) the volumes and in each case the specific gravities of the several components.

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(*b*) Prove that the pressure in a liquid due to its weight is proportional to the depth.

(*c*) Investigate the conditions of equilibrium for a solid in liquid suspended by a string.

12. In the bend of a U-shaped tube is a quantity of mercury (specific gravity, 13·6). Water is poured into one arm and glycerine into the other till their free surfaces are level. If the depths of water and glycerine be respectively 49 and 50 centimetres, find the specific gravity of glycerine.

13. A triangle ABC, whose plane is vertical, is wholly immersed in water in such a manner that the angle A is in the surface, and the bisector of the angle B is horizontal, and meets AC in D. Shew that if $AB = \frac{3}{5}$ of BC, the whole pressure on the triangle ABD is to the whole pressure on the triangle BCD as 9 is to 35.

14. *A, B, C are three balls of equal weight. A balances B and C when all are suspended in a liquid of specific gravity s_1; B balances C and A in a liquid of specific gravity s_2; C balances A and B in a liquid of specific gravity s_3. Find the specific gravities of A, B, and C.

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ANNUAL EXAMINATION.

CHEMISTRY.—SENIOR.

Examiner: PROFESSOR F. D. BROWN.

1. Write a short account of the phlogistic theory and of its overthrow towards the end of the eighteenth century.

2. Explain, as clearly as you can, the train of thought which led Dalton to the atomic hypothesis.

3. Show that Boyle's law and Graham's law of gaseous diffusion are necessary consequences of the kinetic theory of gases.

4. Make a table showing the number of atoms in the molecule of each of the non-metallic elements and the conditions under which such number obtains. State concisely how the numbers in each case have been arrived at.

5. What is "osmotic pressure?" How may the molecular weight of a substance be derived from measurements of this quantity?

6. Describe the chief methods employed for measuring the conductivity of electrolytes.

7. Show how the law of mass action explains the existence of a limit to the solubility of a substance at any given temperature. What is the meaning of the term "solubility product?"

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ANNUAL EXAMINATION.

CHEMISTRY.

Examiner: PROFESSOR F. D. BROWN.

1. What volume will be occupied by 5·324 grams of ammonia gas at 15°C. and 745mm. pressure?

2. Describe briefly a method of preparation of each of the oxides of nitrogen and state the formulæ of these substances. Calculate also their percentage composition.

3. How would you detect the presence of a small quantity of free chlorine in an aqueous solution of common salt?

4. Why is sulphur dioxide said to be a reducing agent? Give instances of reductions which may be effected by means of this gas.

5. Give an account of the manufacture of sulphuric acid, and explain the reactions which take place in the lead chambers.

6. What is meant by the "basicity" of an acid? Give examples of monobasic, dibasic, and tribasic acids. How would you proceed to determine the basicity of an acid?

7. What substances may be obtained by treating potash with chlorine gas? Write down equations explanative of their formation.

8. What evidence derived from the colour of salt solutions may be adduced in favour of the theory of ionization?

9. How would you obtain pure alumina from bauxite?

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10. Mention the chief ores of zinc, and give a short description of the methods by which the metal is obtained from these ores.

11. Describe any two electro-chemical processes employed on a large scale for the preparation of chemical compounds.

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EXPERIMENTAL PHYSICS.

MAGNETISM AND ELECTRICITY.

Examiner: PROFESSOR F. D. BROWN.

1. A small suspended magnet makes 10 oscillations per minute under the influence of the earth's field alone. A bar magnet directed north and south is placed due north of the small magnet; the latter now makes 14 oscillations per minute. What would the frequency be if the bar magnet were reversed in position pole for pole?

2. A reservoir of water covers an area of 660,000 square feet, and has an uniform depth of 20 feet. If the water were used to drive a turbine situated 30 feet below the bottom of the reservoir, what would be the average horse-power supplied by the water, supposing the reservoir to be emptied in 24 hours?

3. Explain exactly how it may be proved experimentally that the strength of the magnetic field due to an electric current in a straight wire is inversely proportional to the distance from the wire of the point considered.

4. The terminals of a battery, of which the E.M.F. is 4 volts and the resistance 3 ohms, are connected by a wire of 9 ohms resistance. By how much is their difference of potential thereby altered?

5. A current is sent through the coils of a galvanometer and through a one ohm resistance immersed in 100 grams of water. In 40 minutes the rise of temperature is 15·8° C. and the mean deflection of the galvanometer 32°. Calculate the strength of the current and the reduction factor of the galvanometer.

$$\tan 32^\circ = 0{\cdot}6249.$$

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6. Two Leyden jars are alike except than in one the tinfoil coatings are separated by glass, while in the other the dielectric is ebonite. A charge of electricity is given to the glass jar, and the potential of its inner coating is measured by means of a quadrant electrometer. The charge is then shared between the two jars and the potential falls to 0·6 of its former value. If the specific inductive capacity of ebonite be 2, what is that of glass?

7. A solid fly wheel one meter in diameter turns on an axis which is directed north and south at a place where the horizontal intensity is 0·2. Calculate the potential difference between the centre and the circumference of the wheel when it is making 250 revolutions per minute.

8. What is the thermo-electric phenomenon known as the Peltier effect? Describe some experiment by means of which the existence of this effect may be rendered evident.

9. What is meant by the term "magnetic permeability? How may this quantity be measured? Give some account of the hypotheses which have been advanced to account for the magnetic behaviour of iron. What facts are explained by Ewing's hypothesis which are not otherwise accounted for?

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BIOLOGY.

Examiner: PROFESSOR A. P. W. THOMAS.

NOTE.—*Answers should be illustrated with diagrams wherever possible.*

I.—GENERAL BIOLOGY.

A.

1. Explain by reference to simple organisms known to you, the essential differences between plants and animals.

2. Give a short account of the nervous system of the Frog. What are the general functions of the nervous system?

3. What do you understand by the physiological division of labour? Explain your meaning by reference to the general structure of Hydra and the Frog.

4. Explain and illustrate the following terms:—Polymorphism, Mimicry, Reversion. Give some account of their biological significance.

B

For Students taking General Biology only.

5. Give an account of the nutrition and mode of growth of the Yeast Plant.

6. What are the differences between striped and unstriped Muscle, and in what organs of the Frog are they respectively met with.

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7. Distinguish between Continental and Oceanic Islands, and explain the characteristic differences between their faunas. To which group of islands do you suppose New Zealand to belong?

II.—JUNIOR BOTANY.

A.

1. Give an account of Transpiration in the higher plants, and show how it takes place. What is its importance? How would you measure the rate of Transpiration?

2. Describe the Pollen Grains of a Lily, and show how they germinate. Describe the ovule and process of fertilisation in the same plant.

3. Distinguish clearly between seed and fruit, and describe examples of seeds with and without endosperm. Describe the germination of a seed with endosperm.

4. Give examples showing the variation of floral structures in the Ranunculaceæ. Explain the biological significance of some of the variations you describe, and show the grounds for associating the plants in one natural family.

B.

For Students taking Junior Botany only.

5. Give an account of the structure of the leaf of any flowering plant, and show how that structure is related to the functions of the leaf.

6. Give an account of the various methods by which fruits (or seeds), may be distributed, and describe briefly one example of each method.

7 Describe the inflorescence and flower of any grass (to be named).

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ANNUAL EXAMINATION.

III.—SENIOR BOTANY.

1. Describe a vascular strand from any monocotyledonous plant. Compare the arrangement of the vascular system in Lilium with that of a Dicoty ledon (to be named).

2. What do you understand by adaptive features in plants? Show the existence of adaptive features in the general form and in the structure of the tissues of foliage leaves.

3. Give some account of structure and physiology of Saprolegnia.

4. Describe the archegonium and antheridium of a Fern. What are the corresponding structures in a Pine and a Lily?

5. What grounds have we for saying that the stamens and carpels of an Angiosperm are equivalent to sporophylls of lower plants?

6. Describe the reproductive organs of Marchantia. State briefly in what respects the structure of Polytrichum is more highly differentiated than that of Marchantia.

7. Give a short account of the storage of food-reserves in plants, and the nature of the material stored.

IV.—ZOOLOGY.

1. Describe the general structure and character of the tissues in a sea anemone.

2. Give a comparative account of the structure of the respiratory organs in the types known to you.

3. Give an account of the structure of the appendages in a Cockroach, and contrast them briefly with those of the Crayfish.

4. In what essential respects does an Ascidian resemble a vertebrate?

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ANNUAL EXAMINATION.

5. What are the special features of the fauna of South America?

6. Give an account of the central nervous system of an Earthworm, a Mollusc, and a Fish. How far is it possible to compare them?

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ANNUAL EXAMINATION.

GEOLOGY.

Examiner: PROFESSOR A. P. W. THOMAS.

Answers should be illustrated with diagrams wherever possible.

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1. What is a volcano? Describe the chief types of volcanic activity. What do you suppose volcanic action to be due to?

2. How are limestones formed? What light may microscopic examination throw on the mode of origin of limestones?

3. A mass of granite is found outcropping from the midst of a country formed chiefly of sandstones, shales including thin seams of coal, and limestones. What evidence would you look for to establish the relative ages of the granite and sediments? What changes would you expect to find in the sediments if the granite were the younger rock?

4. Give sections to illustrate the following:—Escarpment, overfold, trough-fault, overlap, laccolite. Explain briefly how the appearances presented by your sections have been produced.

5. Give a section anywhere across the main axis of New Zealand, and explain the history of the country as shown by your section.

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ANNUAL EXAMINATION.

6. Give an account of the Jurassic reptiles.

7. What is the character of the Cambrian fauna? What reasons are there for supposing that the Cambrian were not the earliest stratified ossiliferous rocks?

8. Give a short account of the following, and state their character and range in time:—Lepidodendron, Homalonotus, Glossopteris, Ammonites, Orthis, Productus. What do you know concerning the occurrence of any of them in New Zealand?

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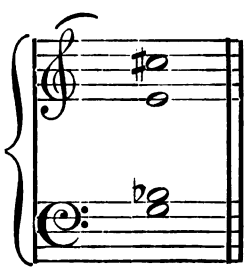
SCHOOL OF MUSIC (ADVANCED DIVISION).

Examiner: DR. W. E. THOMAS.

Time allowed: Three hours.

N.B.—Questions 4, 5, 6, 7, 8, 9 *are essential.*

1. Modulate by means of this Chord (enharmonically) into three different keys :—



2. Give forms of movements, 1st subject of each (treble only necessary), and state keys of each movement, of Beethoven's Sonata Pathétique.

3. Score for two flutes, two oboes, two clarinets, two bassoons, two horns, 1st and 2nd violins, violas, 'cellos, and double basses :—

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ANNUAL EXAMINATION.

MARCIA FUNEBRE. *Beethoven.*

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ANNUAL EXAMINATION.

4. Harmonize in four parts :—

5. Harmonize in five parts :—

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6. Complete the following canon, two in one (with free part), in eight bars :—

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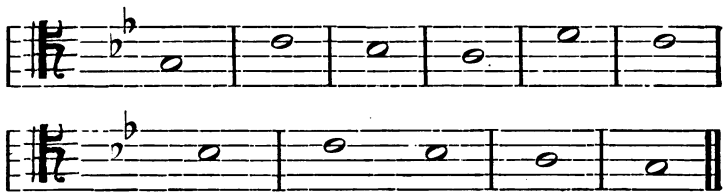
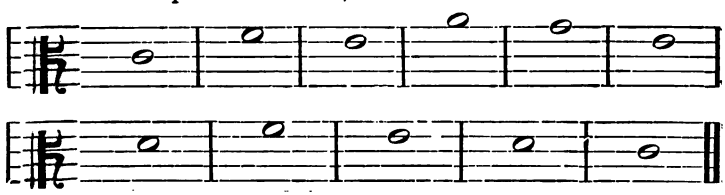
ANNUAL EXAMINATION.

7. Answer tonally, and write an exposition in four parts. C.S. must be in Double Counterpoint in octave :—

8. Add four parts (two trebles, alto, and bass) N.A.N. :—



9. Write 3rd species in treble, and 5th in bass :—



10. Give a description of the compass and capabilities of the Oboe.

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SCHOOL OF MUSIC (INTERMEDIATE DIVISION).

Examiner: DR. W. E. THOMAS.

Time allowed: Three hours.

N.B.—Questions 4, 5, 7, 8, 9, 10 *are essential.*

1. Take the following chord and resolve in several ways, enharmonically and otherwise :—

2. Give an example of a Transition, a Sequence, and an Abrupt Cadence.

3. State the principle on which you would now construct harmonies, as distinct from the rules of Hucbald.

4. Harmonize in four parts in open score :—

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7. Continue in canon for eight bars :—

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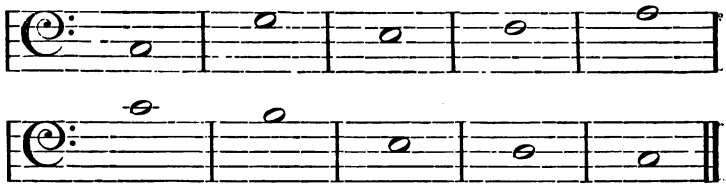
8. To the following fugue subject give a tonal answer, and a counter subject in double counter-point in the octave :—

9. Write a 4th species in treble, and a 1st species in alto, to this C.F.:—



10. Add a 2nd above, and a 5th species below, this C.F.:—

11. Enumerate the different forms as found in Beethoven's Sonatas.

12. Give a succinct account of music in the 17th Century.

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SCHOOL OF MUSIC (JUNIOR DIVISION).

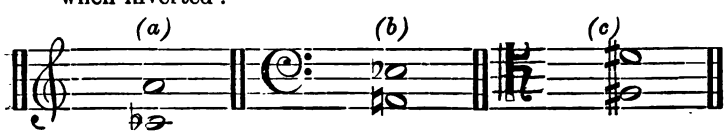
Examiner: DR. W. E. THOMAS.

Time allowed: Three hours.

N.B.—Questions 2, 4, 5, 6, 7, 8 *are essential.*

1. Write as briefly (with as few notes) as possible:—

2. Name the following intervals, and state what they become when inverted:—



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3. Give English of the following words :—*Meno mosso, accelerando, solo, mezzo voce, vivacissimo, legato.*

4. Arrange in open score (four lines), using treble, alto, tenor, and bass clefs :—

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5. Harmonize in four parts :—

6. Harmonize in four parts :—

7. Add a 4th species below, in tenor clef :—

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8. Add a 3rd species above this C.F.:—

9. Who were the inventors of (1) Harmony, (2) Solfa Syllables, (3) Notes, (4) Dominant Seventh?

10. Give some particulars of the following:—Dunstable, Dufay, Ockenheim, Josquin de Pres, and Carissimi.

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SCHOOL OF MUSIC.

ACOUSTICS.

Examiner: PROFESSOR F. D. BROWN.

1. If a narrow cylindrical jar be gradually filled with water while a vibrating tuning fork is held over the mouth, it is found that, when the water reaches a certain level, the sound becomes much louder; explain this. With a tuning fork vibrating 528 times in a second, and a jar 20 inches deep, what should be the depth of the water in the jar to give maximum resonance?
2. Explain the effect of change of temperature upon the pitch of the note emitted by a stretched string. Why are the notes of a piano with an iron frame but little affected by temperature change?
3. A string 30 inches long yields a certain note when stretched with a weight of 36 lbs. What should be the length of another string of the same size which would yield the same note when stretched with a weight of 25 lbs?
4. Explain the meaning of the terms "interval," "major tone," "minor tone," "semi-tone," as employed in music. The vibration numbers of three notes are 504, 630, and 945 respectively; what are the intervals between them?
5. To what cause is dissonance generally attributed? Show that, owing to dissonance of the upper partials or overtones, the interval known as a fourth is less consonant than a fifth.
6. If the middle C corresponds to 256 vibrations per second, how many beats would be heard per second if the note F sharp were simultaneously sounded in the natural scale and in the scale of equal temperament?

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SCHOOL OF MUSIC.

COMPOSITION.

Examiner: Dr. W. E. Thomas.

Time allowed: Three hours.

1. Set to music the following words as a recitative:—

"Open me the gates of righteousness, that I may go into them and give thanks unto the Lord."

2. Set to music, in the form of a part song or madrigal, the following verses:—

1.

Amidst the myrtles as I walk,
Love and myself thus enter, talk,
Says Love. to me, "Thou gentle swain,
Search not in myrtle groves, 'tis vain."

2.

"Tell me," said I, in deep distress,
"Where I may find my shepherdess."
"Examine well thy noblest part,
Thou'lt find her seated in thy heart."

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ANNUAL EXAMINATION.

SCHOOL OF MUSIC.

THEORY (Senior Grade).

Examiner: Dr. W. E. Thomas.

Time allowed: Three hours.

1. Harmonize in four parts:— [25]

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2. Harmonize in four parts :— [25]

3. Add a Counterpoint below the following C.F. in 1st species :— [10]

4. Add a 4th species to the following in Tenor Clef :— [15]

5. Give Italian words for the following :—Quickening the pace, dying away, slackening the pace, at the performer's pleasure, sweetly, detached :— [10]

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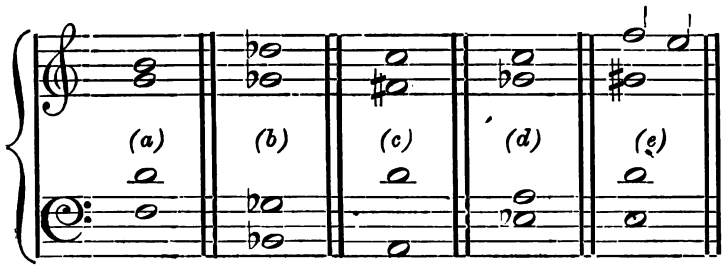
6. Name, resolve, and figure the following chords :— [15]



N.B.—Answers must not be written on this paper.

[*Figures in brackets refer to the marks obtainable for each answer.*]

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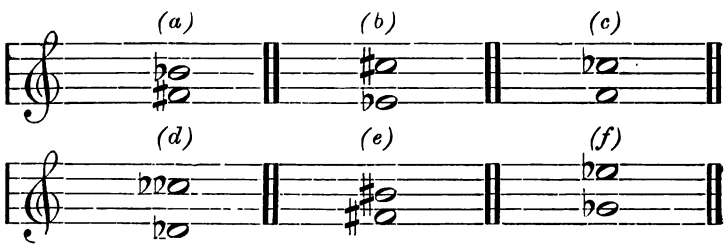
SCHOOL OF MUSIC.

THEORY (INTERMEDIATE GRADE).

Examiner: DR. W. E. THOMAS.

Time allowed: Three hours.

1. Name the following intervals, and state what they become inverted:—[10]



2. Write the Chromatic Scale of G ascending in the Tenor Clef; and the Melodic Minor of D descending in the Bass Clef [15]

3. Explain the following time signatures:—$\frac{4}{2}$; $\frac{3}{8}$; $\frac{9}{16}$; $\frac{12}{8}$. [10]

4. Give Italian words for:—Very fast, very slow, softer by degrees, smoothly, gradually louder. [10]

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ANNUAL EXAMINATION.

5. Add time signature, bars, alto clef, and state key of the following :—[10]

6. Transpose into G minor :— [15]

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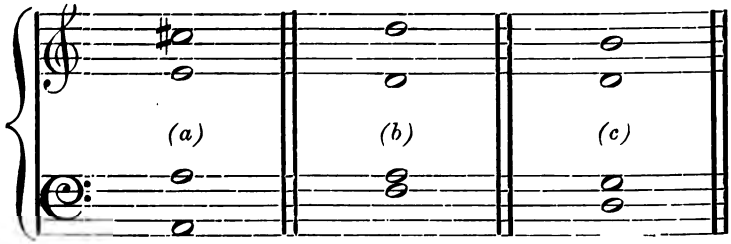
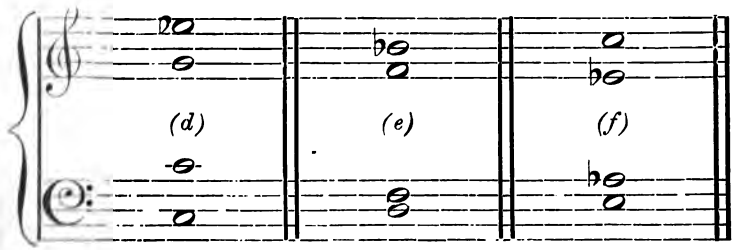
7. Explain the following chords, and figure the bass where necessary.—[15]





8. Give signs for the following:—*Legato*, *staccato*, *semi-staccato*, *emphasis*, and *pause*. [15]

N.B.—Answers must not be written on this paper.

[*Figures in brackets refer to marks obtainable for each question.*]

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SCHOOL OF MUSIC.

THEORY (Junior Grade).

Examiner: Dr. W. E. Thomas.

Time allowed: Two hours.

1. Give the scale of C minor ascending in melodic form; and the scale of E flat minor descending in harmonic form. [10]

2. What are the key signatures of D flat major and F minor. [10]

3. Place the following an octave higher in the treble clef:— [15]

4. Give time signatures for the following:—Four minims in the bar; three quavers; six semi-quavers; and nine crotchets. [10]

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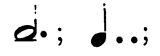
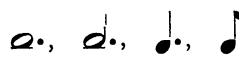
5. State how many semi-quavers the following notes are equal to separately :—[20]



6. Place time signatures before the following notes :— [15]

7. Give meanings of :—*Dim.*, *rall.*, *calando*, *dolce*, *vivacissimo*, and *perpendosi*. [10]

8. What are the corresponding rests to the following notes :—[10]



N.B.—Answers must not be written on this paper.

[*Figures in brackets refer to marks obtainable for each question*].

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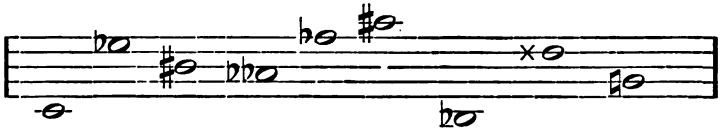
SCHOOL OF MUSIC.

THEORY (PRIMARY GRADE).

Examiner: DR. W. E. THOMAS.

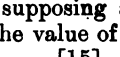
Time allowed: Two hours.

1. Name the following notes in the bass clef, placing the sign at the beginning of the line:—[15]



2. Give the scales of B flat major and E major, both ascending:— [10]

3. What dotted note is equal to and ? [15]

4. Give the number of beats to supposing a crotchet is equal to one beat; and in notes give the value of  [15]

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ANNUAL EXAMINATION.

5. Give the time signatures of 3 quavers, 4 crotchets, 2 minims, and 6 semi-quavers in a bar. [15]

6. Write signs for flat, natural, double flat, pause, and double sharp. [10]

7. What do you understand by *dolce*, *pp*, *ff*, *mp*, *mf*, *cres*, *dim*, *rall?* [10]

8. Give the signatures of the scale of D, B♭, and G. [10]

N.B.—Answers must not be written on this paper, but on the paper provided for the purpose.

[*Figures in brackets refer to the marks obtainable for each answer*]

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ANNUAL EXAMINATION.

FRENCH.

Examiner: MAXWELL WALKER, M.A.

PAPER A.

I.

1. Translate :—

"Comment avez-vous fait pour traverser leurs lignes ?
Cela dut être très difficile ! . . . ."

—"Pas trop.
J'ai simplement passé dans mon carrosse, au trot.
Si quelque hidalgo montrait sa mine altière,
Je mettais mon plus beau sourire à la portière,
Et ces messieurs étant, n'en déplaise aux Français,
Les plus galantes gens du monde,—je passais ! "
— "Oui, c'est un passe-port, certes, que ce sourire !
Mais on a fréquemment dû vous sommer de dire
Où vous alliez ainsi, madame ? "

—"Fréquemment.
Alors je répondais : 'je vais voir mon amant.'
— Aussitôt l'Espagnol à l'air le plus féroce
Refermait gravement la porte du carrosse,
D'un geste de la main à faire envie au roi
Relevait les mousquets déjà braqués sur moi,
Et superbe de grâce, à la fois, et de morgue,
L'ergot tendu sous la dentelle en tuyau d'orgue,
Le feutre au vent pour que la plume palpitât,
S' inclinait en disant : 'Passez, señorita ! ' "

—EDMOND ROSTAND.

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ANNUAL EXAMINATION.

2. How are so-called mute *e* and the diphthong *ie* treated in the Alexandrine metre? What is *enjambement?* Does any example of it occur in the above passage?

3. *Cela dut être; je vais voir:* illustrate the various idiomatic uses of the verbs *devoir* and *aller.*

4. Distinguish between: *j'ai passé* and *je suis passé; quelque, tout* and *aucun; dans* and *en.*

5. *Fréquemment:* give complete rules for the formation of adverbs; also for their position in a sentence.

6. *C'est un passe-port, certes, que ce sourire:* quote other examples of this construction. Account for the form of *certes.* Give the plural of *passe-port,* and of five other compound nouns, illustrating distinct rules.

II.

1. Translate:—

(*a*) La partie sud-est du Berri renferme quelques lieues d'un pays singulièrement pittoresque. La grande route qui le traverse dans la direction de Paris à Clermont étant bordée des terres les plus habitées, il est difficile au voyageur de soupçonner la beauté des sites qui l'avoisinent. Mais à celui qui, cherchant l'ombre et le silence, s'enfoncerait dans un de ces chemins tortueux et encaissés qui débouchent sur la route à chaque instant, bientôt se révèleraient de frais et calmes paysages, des prairies d'un vert tendre, des ruisseaux mélancoliques et silencieux, des massifs d'aunes et de frênes, toute une nature suave, naïve et pastorale En vain chercherait-il dans le rayon de plusieurs lieues une maison d'ardoises et de moellons. A peine une mince fumée bleue, venant à trembloter derrière le feuillage, lui annoncerait le voisinage d'un toit de chaume, et, s'il apercevait, derrière les noyers de la colline, la flèche d'une petite église, au bout de

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quelques pas il découvrirait une campanille de tuiles rongées par la mousse, douze maisonnettes éparses entourées de leurs vergers et de leurs chènevières, un ruisseau avec son pont formé de trois soliveaux, un cimetière d'un arpent carré, fermé par une haie vive, quatre ormeaux en quinconce et une tour ruinée. C'est ce qu'on appelle un bourg dans le pays.

—GEORGE SAND.

(*b*) J'ai l'oeil au guet ; la grève des cochers de fiacre est terminée ; j'irais quand il tomberait des hallebardes ; vous me prendrez en passant ; il a été on ne peut plus aimable ; c'est un fin matois.

2. What is the usual gender of nouns ending in *-age* and *-eau* ? Mention two exceptions in each case.

3. Distinguish between : *part*, *parti*, and *partie* ; *pays*, *patrie*, *contrée*, and *campagne*.

4. *En vain chercherait-il :* mention four other words or phrases after which inversion takes place.

5. *Il est difficile de soupçonner :* when do you use *c'est*, *c'etait*, etc.

6. *Se révèleraient :* give all the forms of this verb in which the grave accent occurs.

7. Indicate the pronunciation of the first and last sentences of (*a*). Write notes on the pronunciation of—*un grand homme*, *à tort et à travers*, *l'univers entier*, *rang élevé*, *les héros*.

III.

Translate :—

1. For, in spite of his prodigious failure, he was superlatively great in all that pertains to government, the quickening of human energies, and the art of war. His greatness lies not only in the abiding importance of his best

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undertakings, but still more in the Titanic force that he threw into the inception and accomplishment of all of them—a force which invests the storm-blasted monoliths strewn along the latter portion of his career with a majesty unapproachable by a tamer race of toilers. After all, the verdict of mankind awards the highest distinction, not to prudent mediocrity that shuns the chance of failure and leaves no lasting mark behind, but to the eager soul that grandly dares, mightily achieves, and holds the hearts of millions even amidst his ruin and theirs. Such a wonder-worker was Napoleon. The man who bridled the Revolution and remoulded the life of France, who laid broad and deep the foundations of a new life in Italy, Switzerland, and Germany, who rolled the West in on the East in the greatest movement known since the Crusades, and finally drew the yearning thoughts of myriads to that solitary rock in the South Atlantic, must ever stand in the very forefront of the immortals of human story.—J. H. ROSE.

2. (*a*) Whatever books he may read, he draws from them some instruction.

(*b*) What we supposed to be an island was no more than the back of a large fish.

(*c*) Providence never intended to make the management of public affairs a mystery to be comprehended only by a few persons of sublime genius.

(*d*) Give my coat a brushing; you can trust to him for that; they always look as if they came out of a band-box; I cannot let you have my goods at cost price; he is a thorough man of business; for ready money.

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ANNUAL EXAMINATION.

FRENCH.

Examiner: MAXWELL WALKER, M.A.

PAPER B.

I.—Molière : *Le Bourgeois Gentilhomme* and *L'Avare.*

1. Translate—

(*a*) Gamon, vraiment ! il y a fort à gagner à fréquenter vos nobles ! et vous avez bien opéré avec ce beau monsieur le comte, dont vous vous êtes embéguiné.

(*b*) Je vois bien que, pour mourir agréablement, Harpagon n'est pas le supplice que vous voudriez embrasser ; et je connois, à votre mine, que le jeune blondin dont vous m'avez parlé vous revient un peu dans l'esprit.

(*c*) Hélas, où me réduisez-vous, que de me renvoyer à ce que me voudront permettre les fâcheux sentiments d'un rigoureux honneur et d'une scrupuleuse bienséance.

(*d*) On donne dans la bergerie ; voyez un peu l'homme d'importance ; vous avez pris le bon biais pour toucher son coeur ; elle est nourrie et élevé dans une grande épargne de bouche ; je m'en prendrai à vous et le rabattrai sur vos gages.

2. Explain the circumstances which gave rise to the following words :—

(*a*) Ne vous offensez pas, ma belle, si je viens à vous avec des lunettes.

(*b*) Monsieur, je vous souhaite la force des serpents et la prudence des lions.

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ANNUAL EXAMINATION.

3. *Write Notes on* :—Est-ce un momon que vous allez porter ; je veux faire mieux voir la force de mon coeur à la haïr ; grand'maman ; truchement ; pimpesouée ; vous la connoissez mal ; le pendard a l'insolence de l'aimer avec moi et d'y prétendre.

4. Into what classes may the comedies of Molière be divided? To which class would you assign respectively *Le Bourgeois Gentilhomme* and *L'Avare*, and why? Name the Latin work to which Molière was largely indebted in writing *L'Avare*.

II.—Racine : *Phèdre.*

1. Translate—

(*a*) Modérez des bontés dont l'excès m'embarrasse.

(*b*) Mourons : de tant d'horreurs qu'un trépas me délivre.
Est-ce un malheur si grand que de cesser de vivre?

(*c*) Tout ce que j'ai souffert, mes craintes, mes transports,
La fureur de mes feux, l'horreur de mes remords,
Et d'un cruel refus l'insupportable injure,
N'était qu'un faible essai des tourments que j'endure.

Write a note on *remords*.

2. In what sense does Racine use the words *disgrâce*, *combats*, *outrages*, *tête*, *comme*, *principe*, *ennui*? Comment on the forms in *je le croi*, *jusques au ciel*.

3. Scan the line :—

Je t'avouerai de tout ; je n'espère qu'en toi.

4. *Either* state from what sources Racine derived the plot of *Phèdre* and discuss his treatment of the subject *or* discuss the style of Racine as exhibited in *Phèdre*.

III.—Taine : *Voyage aux Pyrénées.*

1. Translate :—

(*a*) Toutes les réflexions tombent sous la sensation de l'immense : croupes monstrueuses qui s'étalent, gigantesques

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échines osseuses, flancs labourés qui descendent à pic jusqu'en des fonds qu'on ne voit pas.

(*b*) *(With short explanatory notes)* Une terre qui va s'appauvrissant; des échoppes se sont collées dans ses creux; il y avait surtout de vieux pâtres en houppelandes rousses de poils feutrés; on dirait une carrière abandonnée; et ainsi fust conduit à mon logis, là ou trouvai un chirurgien; sifflez-moi librement, je vous le rends, mes frères; nous entendons un gloussement aigre, comme d'une poule étranglée et . . . *(complete the quotation).*

2. State briefly what you know of the following:—*Marguerite of Navarre, Henri IV., Lope de Vega, Froissart, Montluc.*

3. Relate in your own words *(in French)* the story of *Pé de Puyane* or *Bos de Bénac.*

4. *Either* give a description of the plants and animals of the Pyrenees *or* discuss Taine's theory of climate, illustrating by quotations.

IV.—French Literature: 1800—1850.

Answer questions 1 and 2 and three others.

1. Name the authors of the following works:—*Les Messéniennes, Adolphe, Emaux et Camées, Du Vrai, du Beau et du Bien, Mlle de la Seiglière, La Chartreuse de Parme, Volupté, De la Démocratie en Amérique, Colomba.* Mention the class of composition to which each belongs and write a short notice of one of them.

2. Indicate briefly by a table the chief steps in the development of Romanticism. Describe the deciding "battle."

Estimate the position of George Sand *or* of Honoré de Balzac in French literature.

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4. Give a classified list of the chief works of Victor Hugo. Write a short account of his relation to Romanticism and quote some passage illustrative of his style.

5. State in a few lines the chief characteristics of *Théophile Gautier*, *Alfred de Vigny*, *Alexandre Dumas (père)*, *Chateaubriand*.

6. Discuss the development of history *or* write an essay on the minor writers of the period.

7. Give an outline of the plot of one of the leading plays or novels of the period.

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GERMAN.

Examiner: MAXWELL WALKER, M.A.

PAPER A.

I.

1. Translate:—

Am blassen Meeresstrande
Sasz ich gedankenbekümmert und einsam.
Die Sonne neigte sich tiefer und warf
Glührote Streifen auf das Wasser,
Und die weiszen, weiten Wellen,
Von der Flut gedrängt,
Schäumten und rauschten näher und näher—
Ein seltsam Geräusch, ein Flüstern und Pfeifen,
Ein Lachen und Murmeln, Seufzen und Sausen,
Dazwischen ein wiegenliedheimliches Singen—
Mir war, als hört' ich verschollne Sagen,
Uralte, liebliche Märchen,
Die ich einst als Knabe
Von Nachbarskindern vernahm,
Wenn wir am Sommerabend
Auf den Treppensteinen der Hausthür
Zum stillen Erzählen niederkauerten
Mit kleinen, horchenden Herzen
Und neugierklugen Augen;
Während die groszen Mädchen
Neben duftenden Blumentöpfen
Gegenüber am Fenster saszen,
Rosengesichter,
Lächelnd und mondbeglänzt.—HEINE.

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2. *Am blassen Meeresstrande :* Give

   (*a*) Other instances of the contraction of prepositions with the definite article.

   (*b*) A tabular view of the declension of adjectives. Comment on *Ein seltsam Geräusch.*

   (*c*) The chief rules concerning the composition of substantives, with examples.

3. *Näher :* Compare *five* other adjectives which modify their vowel in the comparative and superlative: also, *five* which do not modify their vowel.

4. *Lieblich :* What is the force of the termination *-lich ?* Form adjectives by means of *-isch*, *-bar*, *-ig*, *-icht*, stating in each case what the termination denotes.

5. Decline in full (inserting the definite article where necessary): *Sonne*, *Knabe*, *ich*, *Herz*, *Auge*, *der* (relative pronoun).

6. *Als hört' ich :* Give rules for the use of the subjunctive mood in German.

II.

1. Translate :—

Nur mit der Wohlfahrt seines Volkes beschäftigt, hatte Kaiser Wilhelm niemals daran gedacht, dasz es unter seinen Deutschen heute geben könne, die ihm feindselig gesinnt seien. Und doch war dem so. Seit Jahren schon hatte sich eine Partei gebildet, welcher der Thron und geordnete Regierungsverhältnisse überhaupt verhaszt waren und die deshalb auf den Umsturz der bestehenden staatlichen Verhältnisse hinarbeitete. Ein verkommenes Mitglied dieser Partei, namens Hödel, feuerte, als der Kaiser mit seiner Tochter, der Groszherzogin von Baden, zu Wagen die Linden passierte, einen Schusz in den kaiserlichen Wagen, fehlte jedoch und wurde sofort verhaftet. Wenige Wochen später

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wurde aus dem Hause Unter den Linden 18 abermals von einem Umstürzler auf den Kaiser geschossen, diesmal leider mit unglücklicherem Erfolge. Die Ladung, welche aus Rehposten und Schrot bestand, hatte den Monarch schwer in Gesicht, Hals und Schultern verwundet, allein der Sorgfalt und Aufmerksamkeit der Ärzte, sowie der aufopfernden Pflege seiner Gemahlin gelang es, den Kaiser wiederherzustellen. Als er von Gastein kommend, nach mehrmonatlichem Krankenlager an der Seite der Kaiserin sich der Berliner Bevölkerung wieder zeigte, war die Freude, die Teilnahme, die Rührung eine so allgemeine, laute und echte, wie sie in der Geschichte der Regenten aller Zeiten einzig dasteht.

—KARL ZASTROW.

2. *Gedacht; dasteht:* Mention any peculiarities in the conjugation of these verbs.

3. *Verkommen:* What is the force of the prefix *ver?* also of *be-, ent-, zer-, er-?*

4. *Der Berliner Bevölkerung:* Note on *Berliner.*

5. *War die Freude,* etc: Explain *war.*

6. Indicate, by means of phonetic notation, the pronunciation of the first sentence of the above passage. Comment on the pronunciation of *Gespött, hatte ich, Sieg, schwer.*

III.

Translate:—

1. About the year 1793 Bürger's extraordinary poem of Lenora found its way to Scotland, and it happened that a translation of it was read at Dugald Stewart's; I think by Mrs. Barbauld. Miss Cranstoun described this strange work to her friend. The young poet, whose imagination was set on fire by the strange crowd of wild images and novel situations in this singular production never rested till, by the help of a grammar and dictionary, he contrived to study it in the original; and she, as usual, encouraged him to persevere, and

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at the end of a few weeks' application to the German language he had made out the sense, and had written himself a poetical translation of that poem.—CAPTAIN BASIL HALL.

2. Sublime and magnificent as such a scene must have appeared under different circumstances, to us it was awful, if not appalling. For eight hours we had been gradually drifting towards what to human eyes appeared inevitable destruction; the high waves and deep rolling of our ships rendered towing with the boats impossible, and our situation the more painful and embarrassing from our inability to make any effort to avoid the dreadful calamity that seemed to await us.—CAPTAIN SIR J. C. ROSS.

3 Show me, if you please; what a beautiful rainbow; I am very sorry; he is a Frenchman by birth; be advised by me; it is of no great consequence; many hands make light work; ill weeds grow apace.

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GERMAN.

Examiner: MAXWELL WALKER, M.A.

PAPER B.

I.

Schiller: *Die Piccolomini.*

1. Translate:—

(*a*) Dank dir für deinen Wink! Er macht
Mir meine böse Ahnung zur Gewiszheit.
So ist's denn wahr? Wir haben keinen Freund
Und keine treue Seele hier—wir haben
Nichts als uns selbst.

Explain the circumstances.

(*b*) Mein bester Sohn! Es ist nicht immer möglich,
Im Leben sich so kinderrein zu halten,
Wie's uns die Stimme lehrt im Innersten.
In steter Nothwehr gegen arge List
Bleibt auch das redliche Gemüth nicht wahr—
Das eben ist der Fluch der bösen That,
Dasz sie, fortzeugend, immer Böses musz gebären.

Give the context.

(*c*) Was dank' ich ihm nicht alles; den Eingang spart; es soll die Freundschaft indessen wachsam für Sie sorgen, handeln; hier gilt's dem Kaiser wohl zu dienen; Graf Altring aber sprach ihm guten Muth ein.

2. Sketch briefly the history of the composition of *Wallenstein.* What difficulties had Schiller to face and how did he overcome them? What function do Max and Thekla perform in the play?

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3. Mention any instances in which Schiller has deviated from historical truth in *Wallenstein*. Discuss the connection between the several parts of the play. Which is the least essential part, and why?

II.

Goethe: *Iphigenie auf Tauris.*

1. Translate:—

(*a*) Um meinetwillen hab' ich's nie begehrt.
Der miszversteht die Himmlischen, der sie
Blutgierig wähnt; er dichtet ihnen nur
Die eignen grausamen Begierden an.

(*b*) Leicht kann ich dir erzählen, welch ein Übel
Mit lastender Gesellschaft uns verfolgt.

Give the substance of Pylades' story. Indicate the leading features in his character.

(*c*) Denn nirgends baut die Milde, die herab
In menschlicher Gestalt vom Himmel kommt,
Ein Reich sich schneller, als wo trüb und wild
Ein neues Volk, voll Leben, Muth, und Kraft,
Sich selbst und banger Ahnung überlassen
Des Menschenlebens schwere Bürden trägt.

Explain the context.

2. Write explanatory notes on *eight* of the following:—Ein gutes Wort der Frauen; allein von dir, die jedes frommen Rechts genieszt; dasz ich mit einem Weibe handeln ging; von Alters her; ich denke nicht den Tod; schone seiner; mit nichten; vorm Blick der Immerwachen; mit Höllenschwefel genährt; erdringe nicht was ich versagen sollte; saszen traurig und erwartend; führet uns zur Felseninsel; von tausend durchgeweinten Tag- und Nächten.

3. State and discuss the various changes of metre in "Iphigenie auf Tauris." What is *stichomythia*?

4. Contrast Goethe with Euripides in his treatment of the subject.

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ANNUAL EXAMINATION.

III.

Heine: *Memoiren.*

1. Translate:—

   (*a*) Nach diesen Worten, ohne Antwort zu erwarten, troddelte der närrische Kauz wieder fort, und da ich eben zu Frau von Barnhagen ging, nahm ich das Manuscript mit, um ihr die Primeur eines Dichters zu verschaffen; denn ich hatte an den wenigen Stellen, die ich las, schon gemerkt, dasz hier ein Dichter war.

   Explain the circumstances.

   (*b*) Da gab es Örtlichkeiten, die ich nie vorher gesehen, da gab es Verhältnisse, wovon ich früher keine Ahnung hatte, und doch wandelte ich dort mit sicherem Fusz und sicherem Verhalten.

   (*c*) Sonderbar! sogar in ihren Träumen, wie sie mir einst gestand, lebte sie nicht mit Menschen, sondern sie träumte nur von Thieren.

   Give the context.

   (*d*) Die Katzen sind so abergläubisch; obige Abschweifung mag ihr Gegenstand selbst rechtfertigen; aber meine Homonymität mit dem schäbigen Langohr blieb mein Alp.

2. Give the substance of what Heine says about (*a*) French poetry, (*b*) the Hanoverian dialect, (*c*) his father.

3. Give the date of the "Memoiren" and the circumstances under which they were written. Account for the gap that occurs at the beginning of the book.

4. Estimate briefly Heine's position in German literature.

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ANNUAL EXAMINATION.

IV.

History of German Literature.

Answer Question 1 *and Four others.*

1. Name the authors of the following works:—*Theuerdank, das Narrenschiff, Laocoön, Quintus Fixlein, Stimmen der Völker in Liedern, Phantasus, Lenore, Eckehard, der Messias, Sturm und Drang, Kritik der reinen Vernunft.* Write a short notice of one of the works mentioned.

2. Give some account of the sacred poetry of the Seventeenth Century.

3. State what you know about the *Göttinger Hainbund.*

4. Write an essay on the Romantic movement in Germany.

5. Estimate the position of Lessing or of Richter in German literature.

6. Give some account of the friendship existing between Goethe and Schiller. To what extent did it influence their literary productivity?

7. Mention the chief works and characteristics of three of the following: — *Wieland, Klopstock, Grillparzer, Gutzkow, Freytag.*

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ANNUAL EXAMINATION.

JURISPRUDENCE.

Examiner: H. D. BAMFORD, B.A., LL.D., Barrister-at-law.

1. Explain the term "Constitutional Law." Is the term "law" rightly applicable to any portion of it?

2. Comment upon the statement that it is more correct and scientific to define the degrees of care than the degrees of negligence.

   What is the difference between culpa in concreto and culpa in abstracto?

3. State, and comment briefly upon, the main objections to codification.

4. Explain the following terms: Servitude, Quasi-contract, Status, Right, Right in rem, Sanction.

5. What is the difference between Public Law and Private Law?

6. Comment upon the statement: Actio non est ius sed medium ius persequendi.

7. What is covered by the term Private International Law? Criticise this title and state what name you would use instead.

8. Give a short account of the origin and development of English Equity.

9. What is adjective law? Is it "law" as defined by jurisprudence?

10. Can we properly regard a custom as having been transmuted into law before it has been adopted in a judicial decision?

11. Give a short account of the Responsa Prudentum.

12. Explain the phrase "Supremacy of the Constitution."

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CONSTITUTIONAL HISTORY.

Examiner: H. D. BAMFORD, B.A., LL.D., Barrister-at-law.

1. Sketch briefly the history of English "Kingship."

2. Give a short account of the condition of England immediately before the Norman Conquest.

3. Sketch the constitutional history of the reign of Edward I.

4. Trace the origin of trial by jury.

5. Estimate the importance of (*a*) the Civil War and the Commonwealth; (*b*) the Revolution of 1688.

6. What change has taken place in the character of the House of Lords since the Reform Act of 1832?

7. Explain the statement: "It was with a new English people that John found himself face to face."

8. What are the chief directions in which representative government has developed since 1832?

9. Write a short account of the standing army in England.

10. Write short notes on: Bate's case, General warrants, Benevolences, the Arrest of the Five Members, Stockdale v. Hansard, the Grand Remonstrance, Lord Wensleydale's case.

11. Explain the statement: "A cabinet is a combining committee —a *hyphen* which joins, a *buckle* which fastens, the legislative part of the State to the executive part of the State. In its origin it belongs to the one, in its function it belongs to the other."

12. Sketch briefly the history of the Privy Council.

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HISTORY.

EXAMINER: J. P. GROSSMANN, M.A

N.B.—*Not more than* FIVE *out of first* EIGHT *questions to be attempted.*

1. Contrast the Norman and Saxon sovereignty and methods of government.
2. Explain the constitutional importance of the reigns of Henry III. and Edward I.
3. Trace the relations between Church and State under Elizabeth and James I.
4. Describe the struggle between Charles I. and the Parliament.
5. Trace the rise of party government under Charles II. and William III.
6. Describe the struggle for Parliamentary reform in the 18th and 19th centuries.
7. What is the historical importance of:—
   (*a*) Hastings.
   (*b*) Wilkes.
   (*c*) C. J. Fox.
8. Sketch the history of Ireland in the 18th century.

N.B.—*Not more than* FIVE *of the last* EIGHT *questions to be attempted.*

9. Sketch the history of the Lollards, and describe the social and industrial condition of the masses in the 15th century.

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ANNUAL EXAMINATION.

10. Describe the relations between France and England under Henry IV. and Henry V.

11. What do you know of Glendower, Scrope, Cardinal Beaufort, Lord Hastings, Simnel, Cardinal Morton, Thomas Cromwell, Sir Thomas Wyatt.

12. Write a short history of the Wars of the Roses.

13. Explain the foreign policy of Henry VII. and Henry VIII.

14. Describe the policy adopted by Henry VIII. toward the Church.

15. Describe the progress of the Reformation under Edward VI.

16. Describe the Renascence, and explain its relation to the Reformation.

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MODERN HISTORY, 1760—1890.

EXAMINER: J. P. GROSSMANN, M.A.

N.B.—*Not more than* FOUR *questions out of first* SIX *to be attempted.*

1. Describe the political condition of England under George III.

2. Explain the causes that led to the American War of Independence, and narrate the chief incidents of the war.

3. Explain the importance of the Seven Years' War to England, and describe briefly the part that England took in it.

4. Describe the condition of Ireland in the 18th century, and sketch its history during that period.

5. Describe the progress of Parliamentary Reform during the 18th and 19th centuries, and give details of the Reform Bill (1832).

6. Describe the industrial condition of England at the beginning of the 19th century.

N.B.—*Not more than* FIVE *of the last* SIX *questions to be attempted.*

7. Explain briefly the causes that led to the French Revolution, and describe the condition of France under the old regime.

8. Trace the general effects of the Revolution upon the course of modern European History.

9. Sketch the course of events in France from Waterloo to the establishment of the Second Empire.

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10. Give an account of the growth of Germany from 1816 to 1871.

11. Describe the struggle of Italy for independence.

12. Give an account of the expansion of Russia in the 19th century.

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ANNUAL EXAMINATION.

ECONOMICS.

EXAMINER: J. P. GROSSMANN, M.A.

N.B.—*Not more than* TEN *questions to be attempted.*

1. State briefly and criticise:—
   (*a*) Ricardo's 'Theory of Rent.'
   (*b*) George's 'Theory of Land Taxation.

2. Criticise the Wages Fund Theory, and state any other theory of wages.

3. Explain the relation between Value and
   (*a*) Cost of production.
   (*b*) Utility.

4. Explain:—
   (*a*) Credit Cycles.
   (*b*) Tabular standard.

5. State and explain the Law of Diminishing Return, and show how it applies to various forms of industry.

6. In international trade, "the normal value of an article depends on the Cost of Production of the article which is exported to pay for it." Explain this.

7. Is Seignorage justifiable? Explain:—
   (*a*) The international distribution of money.
   (*b*) Gresham's Law.

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8. Discuss the advantages and disadvantages of Inconvertible Paper.

9. Describe the Bank of England system, and state briefly the various theories of Bank money.

10. Discuss the question of International Bimetalism.

11. Discuss the advantages of various forms of Land Tenure.

12. Discuss Trade Unionism.

13. State the case for and against "Preferential Trade."

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ANNUAL EXAMINATION.

LOGIC.

Examiner: J. P. GROSSMANN, M.A.

N.B.—*Not more than* NINE *questions to be attempted.*

1. "Induction is the inverse of Deduction." Discuss this.
2. Explain the nature and functions of the Syllogism.
3. Discuss the nature and limits of Connotation.
4. What are the Categories? Discuss the various schemes for their classification.
5. Explain Division by Dichotomy, and give rules for correct division.
6. State the rules of the Syllogism, and show how far they can be reduced.
7. Explain briefly:—
   (*a*) Modality of propositions.
   (*b*) Contrariety.
   (*c*) Quantification of the predicate.
8. State and reduce syllogisms in Festino, Bokardo, Cesare.
9. Illustrate the following:—Illicit process, ambiguous middle, fallacies of composition and accident, petitio principii, ignoratio elenchi, non sequitur.
10. Explain the nature and use of Hypothesis in Induction.
11. Describe and illustrate briefly the methods of Difference, Residues, and Concomitant Variations.

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PSYCHOLOGY AND ETHICS.

Examiner: J. P. GROSSMANN, M.A.

N.B.—*Not more than* FIVE *questions in each half of the paper to be attempted.*

I.

1. State the theories which are advanced to explain the connection between mental and nervous process.
2. Explain the growth of our perception of space.
3. What are the conditions essential to Memory?
4. Explain fully the nature of General Concepts.
5. Discuss briefly:—Motive, Desire, Choice, Self-control, Free-will.
6. Explain fully:—Conative, Continuity, Acquirement of Meaning, Facilitation.
7. Is mental activity always conscious?
8. Criticise:—
   (*a*) Phrenology.
   (*b*) Faculty Psychology.

II.

9. Criticise Hedonism as an Ethical System.
10. Explain fully what is meant by Perfectionism.
11. Discuss the connection between Ethics and Metaphysics.
12. What has been the effect of Evolutionary theories upon Ethical systems?
13. Criticise the logical basis of Utilitarianism (Mill and Sidgwick).
14. Trace the growth of the Moral Judgment.
15. State and explain the Ethical position held by Kant.
16. Discuss the nature of Conscience as an Ethical standard.

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ANNUAL EXAMINATION.

PHYSICAL GEOGRAPHY.

EXAMINER: J. P. GROSSMANN, M.A.

N.B.—*Not more than* TEN *questions to be answered; but* 5, 9, 10, 11 *are compulsory.*

1. Classify briefly the rocks forming the earth's crust.

2. Describe and locate the chief deserts and plains in the Old World.

3. Describe the mountain and river system of Hindostan.

4. Give a descriptive account of the plains of America.

5. Explain the movement of the tides, and writes notes on:—
   (*a*) Ocean depths.
   (*b*) Wave formation.

6. Describe the currents of the Atlantic Ocean, and give an account of its general characteristics.

7. Draw a sketch map, with explanatory comments, of EITHER the river system of Western Europe, OR the lake and river system of North America.

8. Describe the continental river system of Asia.

9. Explain the nature and action of monsoons and rotary storms.

10. Describe the volcanic system of the Pacific and Indian Oceans, and give some idea of the nature and effects of volcanic action.

11. Explain the theories of coral island formation.

12. Describe and contrast the zoology of Africa and Australasia.

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COMMERCIAL GEOGRAPHY.

EXAMINER: J. P. GROSSMANN, M.A.

N.B.—*Not more than* FOUR *of the first* SIX *questions to be attempted.*

1. Explain the importance of the sea in the development of commerce.

2. Show how tropical climate affects the nature and growth of industries.

3. Describe the influences affecting climate.

4. Explain the *indirect* effects of climate upon commerce and industry.

5. Describe and locate the chief vegetable products of the tropics.

6. Describe the general condition of British commerce at the present time, and show how that condition has been produced.

N.B.—*Not more than* EIGHT *of the last* TEN *questions to be attempted.*

1. Contrast the systems of internal communication in France and the British Isles.

2. Discuss the natural advantages through which British commerce has developed, and any counteracting disadvantages.

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3. Describe the products and manufactures of Germany. How do you account for Germany's recent commercial growth?

4. Contrast the surface and products of Norway and Sweden with those of Spain and Portugal.

5. Explain the commercial importance of China and Japan.

6. Describe the climatic conditions of India and its resultant products.

7. Describe and locate the mineral resources of the United States.

8. Describe the natural and commercial advantages of Brazil and the Argentine.

9. Describe fully the trade of Australia and New Zealand.

10. Where are the following, and what is their commercial importance:—St. Etienne, Tokay, Lodz, Baku, Baghdad, Penang, Batavia, Hankow, Asuan, Tangier, Buluwayo, Miquelon, Cleveland, Montserrat, Demerara, Potosi, Mt. Morgan, Kalgurli, Noumea, Guam, Rarotonga?

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ACCOUNTANCY.

Examiner: MR. HORACE H. HUNT, F.N.Z.A. AND A.A.

PAPER A.

1. Explain the difference between Revenue and Capital Accounts.

2. If a Limited Liability Company with a Capital of £10,000 makes a profit of £9,550 in one year, but of which a bonus of 10 % is given to the Directors and 5 % to the staff, what will the Capital of the Company be after such distribution?

3. Give definitions of the following terms:—

   (*a*) Founders' Shares.

   (*b*) Deferred Shares.

   (*c*) Preference Shares.

   (*d*) Inscribed Stock.

   (*e*) Simple Debenture.

4. The bankrupt estate of three partners having realised £4,000, in what manner are the funds to be distributed, creditors ranking for £3,500. The partners had equal Capital, £1,000 each, and were to share losses or gains equally. One partner, however, had loaned £500 to the firm before bankruptcy. Prepare Balance Sheet shewing the transactions.

5. If premises were insured in one Fire Insurance Office for £300, in another for £250, and in a third for £420, and a loss of £230 was sustained by fire, what amount would be payable by each office?

6. How is the mean duration of life arrived at for Life Assurance calculations?

7. Explain the meaning of General Average, Particular Average, and York Antwerp Rules.

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ANNUAL EXAMINATION.

8. Prepare Balance Sheet and Profit and Loss Account of Wellington Carriers Co. :—

	Dr.			Cr.		
	£	s.	d.	£	s	d.
Capital Subscribed ...				31,209	10	0
Traffic Receipts ...				42,859	0	0
Stables and Offices, Freehold	12,500	0	0			
Insurance Fund ..				2,500	0	0
Horses ...	3,320	0	0			
Vehicles	3,000	0	0			
Harness, Plant, and Machinery	2,500	0	0			
Goods on hand	145	10	0			
Creditors				381	0	0
Debtors	21,058	0	0			
Cash at Bank	2,082	10	0			
Cash in hand	63	10	0			
Bills payable				820	0	0
Bills receivable	7,450	0	0			
Wages	7,931	0	0			
Manager's Salary ...	1,000	0	0			
Feed Accounts	7,009	0	0			
General Expenses ...	9,710	0	0			
	£77,769	10	0	£77,769	10	0

Allow 2½ % depreciation on property, stables, and buildings, and 10 % depreciation on horses and vehicles.

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C.

ANNUAL EXAMINATION.

ACCOUNTANCY.

Examiner: MR. HORACE H. HUNT, F.N.Z.A. AND A.A.

PAPER B.

1. Define the meaning of the word "Commerce."

2. If, as the owner of certain goods, A sells a portion of them to B, what kind of sale does he effect?

3. Explain the terms of sale and point out the errors, if any, in the following Invoice :—

L. & Co., Paris.

Bought of T. & Co., Auckland,

Per "Duisberg." Terms—Franco, Paris. Cash against documents.

Mark.	No.	Pattern.	Width.	Description.	Metres.	Price.	
L&Co. H 1 Bale	1	R.29	132 C.M.	Mosgiel Tweed.	75·90 @	Fcs. 10	
					Discount 3 %		759·00 22·45
							736·55
					Freight		75·00
						Fcs.	811·55

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4. Why is the preceding Invoice (Question No. 3) expressed in Foreign measure and currency, and in what does it differ from a "Loco" Invoice?

5. To secure delivery to L. & Co., Paris, of the goods invoiced (Question 3), what document would you endorse, and why?

6. What would be the freight upon a package 3ft. 2in. long by 2ft 4in. broad by 1ft. 5in. deep @ 26/3 per ton, by steamer to London, adding 10 % primage.

7. State concisely what are the advantages of Double Entry Book-keeping.

8. The Day Book being the principal book of original entry in most businesses, how can its use be dispensed with?

9. State:—

   The fundamental basis of the metric system.

   How a cubic metre is built up and what a square metre is.

   The unit of the measure of weight and its relation to the metre.

10. What principal at 3½ % will amount to £1,100 in one year?

11. A merchant buying wheat at 3/- per bushel wishes to make a profit of 10 % upon the cost after allowing 2½ % discount from the selling price. What should the selling price be?

12. What is the true present value of £800 due 4 years hence at 3 % compound interest?

13. What are check numbers, and how used?

14. What are cypher and cable codes, and what method can be adopted to test their accuracy?

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ANNUAL EXAMINATION.

15. State what are the advantages, if any, of the "Loose Leaf or Perpetual Ledger" system, and in what manner "Card" systems can be usefully employed.

16. Explain the meaning of—

Poundage.
Ad Valorem.
Dock Warrant.
Bonded Warehouse.
Sight Entry.
Drawback Entry.

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GREY SCHOLARSHIP EXAMINATION.

PURE MATHEMATICS.

Examiner: PROFESSOR H. W. SEGAR, M.A.

1. Solve—

$$\frac{(x+a)(x+mb)}{(x-ma)(x-b)} = \frac{(mx+a)(x+b)}{(x-a)(mx-b)}.$$

2. If $X = ax + cy + bz$, $Y = cx + by + az$, $Z = bx + ay + cz$, shew that

$$X^2 + Y^2 + Z^2 - YZ - ZX - XY = (a^2 + b^2 + c^2 - bc - ca - ab)(x^2 + y^2 + z^2 - yz - zx - xy).$$

3. Shew that, if

$$ax^2 + by^2 + cz^2 + 2fyz + 2gzx + 2hxy \equiv (lx + my + nz)(l'x + m'y + n'z),$$

then

$$(mn' - m'n)(gh - af) = (nl' - n'l)(hf - bg) = (lm' - 'lm)(fg - ch).$$

4. The present income of a railway company would justify a dividend of 6 per cent., if there were no preference shares. But as £400,000 of the stock consists of such shares, which are guaranteed $7\frac{1}{2}$ per cent. per annum, the ordinary shareholders receive only 5 per cent. Find the amount of ordinary stock.

5. Sum to n terms—

$$\frac{1}{1+\sqrt{2}} + \frac{1}{3+2\sqrt{2}} + \frac{1}{7+5\sqrt{2}} + \ldots\ldots$$

6. Find the coefficient of x^n in the expansion of

$$\frac{(1+x)^2}{(1-x)^4}.$$

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GREY SCHOLARSHIP EXAMINATION.

7. A, B, C, D are four points taken in order on the circumference of a circle; the straight lines AB,CD produced intersect at P, and AD,BC at Q; shew that the straight lines which bisect the angles APC,AQC are perpendicular to each other.

8. Two straight lines and a point between them are given in position; draw two straight lines from the given point to terminate in the given straight lines, so that they shall contain a given angle and have a given ratio.

9. If a point P be taken within a tetrahedron ABCD, prove that the sum of the angles BPC, CPA, APB is greater than the sum of the angles BDC, CDA, ADB.

10. Prove that—

(i) $\cos^4\frac{\pi}{8} + \cos^4\frac{3\pi}{8} + \cos^4\frac{5\pi}{8} + \cos^4\frac{7\pi}{8} = \frac{3}{2}$;

(ii) $\sin^3 A + \sin^3 B + \sin^3 C$
$= 3\cos\frac{A}{2}\cos\frac{B}{2}\cos\frac{C}{2} + \cos\frac{3A}{2}\cos\frac{3B}{2}\cos\frac{3C}{2}$;
if $A + B + C = 180°$.

11. Eliminate θ from the equations
$m = \operatorname{cosec}\theta - \sin\theta$, $n = \sec\theta - \cos\theta$.

12. Solve the equation—
$2\sin^2 x + \sin^2 2x = 2$.

13. If a flag-staff at the top of a tower of height a subtend a small angle θ at the eye of an observer when at a distance b from the tower, shew that the length of the flag-staff is $\frac{a^2+b^2}{b}\theta$ nearly.

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GREY SCHOLARSHIP EXAMINATION.

MECHANICS AND HYDROSTATICS.

Examiner: PROFESSOR H. W. SEGAR, M.A.

1. Two bodies are simultaneously projected in the same vertical plane with velocities u and v at inclinations α and β to the horizon. Shew that their directions are parallel after the time

$$\frac{u\,v\,\sin(\alpha-\beta)}{g\,(v\cos\beta-u\cos\alpha)}.$$

2. A series of perfectly elastic bodies are arranged in the same straight line; one of them impinges on the next, then this on the next, and so on. Shew that if their masses form a Geometrical Progression, of which the common ratio is r, their velocities after impact orm a Geometrical Progression of which the common ratio is $\frac{2}{r+1}$.

3. A B is the vertical diameter of a circle; through A, the highest point, any chord A C is drawn, and through C a tangent meeting the tangent at B in the point T. Shew that the time of a body's sliding down

$$CT \propto \frac{1}{AC}.$$

4. In a series of experiments a pendulum which beat seconds at the surface gained $2\frac{1}{4}$ beats in a day at a depth of 1,260 feet: if g, g' be the force of gravity at the surface and at the depth mentioned, shew that

$$\frac{g'-g}{g} = \frac{1}{19{,}200}.$$

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GREY SCHOLARSHIP EXAMINATION.

5. If A B C be a right-angled triangle, and A B D E, A C F G be the squares on the sides, prove that the resultant of forces represented by C D, B F is parallel to a diagonal of the rectangle whose sides are A E, A G.

6. Two systems of three forces (P, Q, R), (P', Q', R') act along the sides taken in order of a triangle A B C: prove that the two resultants will be parallel if

$$(QR' - Q'R) \sin A + (RP' - R'P) \sin B + (PQ' - P'Q) \sin C = 0.$$

7. A weight of given magnitude moves along the circumference of a circle in which are fixed also two other weights; prove that the locus of the C.G. of the three weights is a circle.

8. If a common steelyard be constructed with a given rod, whose weight is inconsiderable compared with that of the sliding weight, shew that the sensibility varies inversely as the sum of the sliding weight and the greatest weight which can be weighed.

9. A square, whose side is $2a$, is placed with its plane vertical between two smooth pegs which are in the same horizontal line at a distance c; shew that it will be in equilibrium when the inclination of one of its edges to the horizon is equal to

$$\frac{1}{2} \sin^{-1} \frac{a^2 - c^2}{c^2} \text{ or } \frac{\pi}{4}.$$

10. Find the centre of pressure of a square just immersed in a liquid with one diagonal vertical.

11. A ship sailing from the sea into a river sinks two inches, but after discharging 40 tons of her cargo, rises an inch and a half; determine the weight of the ship and cargo together, the S.G. of sea-water being 1·025, and the horizontal section of the ship for two inches above the sea being invariable.

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GREY SCHOLARSHIP EXAMINATION.

12. A barometer stands at 30 inches, the vacuum above the mercury being perfect. The area of the cross section of the tube is $\frac{1}{4}$ of a square inch. If a quarter of a cubic inch of air is now allowed to get into the barometer, and if the column of mercury falls 4 inches, what was the volume of the original vacuum.

13. A rod of cork, 8 inches long, and a rod of lignum vitæ, 4 inches long, are joined together so as to form a rod of uniform small section. When the rod floats in water it is found to be capable of resting in equilibrium with part of the cork above the surface, and with its axis inclined at any angle to the vertical. Given that the S.G. of cork is ·24, find the S.G. of lignum vitæ.

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GREY SCHOLARSHIP EXAMINATION.

CHEMISTRY.

Examiner: PROFESSOR F. D. BROWN.

1. State clearly the nature of each reaction involved in the ordinary analytical separation *(a)* of silver, mercury, and lead; *(b)* of zinc, nickel, and cobalt.

2. How has it been established that the vapour of phosphorus pentachloride is dissociated into PCl_3 and Cl_2? How may the degree of dissociation be ascertained?

3. Give an account of the different views which have been held regarding the nature of an acid during the course of the nineteenth century.

4. What elements combine directly with nitrogen? State in each case the conditions under which such combination occurs and the formula of the resulting nitride.

5. In what important respects has the introduction of the electric furnace furthered the advance of chemical knowledge?

6. What is the meaning of the term "endothermic" as applied to a compound? How can it be proved that acetylene is an endothermic compound?

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GREY SCHOLARSHIP EXAMINATION.

HEAT, SOUND, AND LIGHT.

Examiner: PROFESSOR F. D. BROWN.

1. Accurate calorimetry requires that the temperatures of the calorimeter should be measured with an error less than ·01° C. Give an exact account of the precautions which must be taken in order to use a mercury thermometer with this degree of accuracy.

2. Explain the meaning of the terms "critical temperature," "critical pressure," and "critical volume," and give an account of the behaviour of a substance near its critical point.

3. Explain the construction of the scale of absolute temperatures founded upon the consideration of the working of a reversible thermal engine.

4. How would you find the resultant motion due to two equal uniform circular motions in the same plane and having the same period? What will be the resultant motion if the two circular motions are in opposite senses and differ very slightly from one another in period?

5. Explain the action of a diffraction grating and prove the formula which connects the wave length of the diffracted light, its deviation, and the distance between the lines of the grating.

6. Describe the construction of a Nicol prism and explain exactly why it produces plain polarized light.

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SINCLAIR SCHOLARSHIP EXAMINATION.

PURE MATHEMATICS.

Examiner: PROFESSOR H. W. SEGAR, M.A.

1. (*a*) Prove the rule for finding the H.C.F. of two algebraical expressions by the method of continued division.

(*b*) Solve the equation $ax^2 + bx + c = 0$, and show how the character of the roots depends on the coefficients in the equation.

(*c*) If $a + \sqrt{b} = \alpha + \sqrt{\beta}$, where a and α are rational, and $\sqrt{b}$ and $\sqrt{\beta}$ are irrational, show that $a = \alpha$ and $b = \beta$.

(*d*) Show that ${}_nC_r = {}_nC_{n-r}$, and conversely that if ${}_nC_r = {}_nC_s$ then either $r = s$ or $r + s = n$.

2. Solve the equations—

(*a*) $x + 2y = 2x + y - 27 = z - 3x = 6$;

(*b*) $2x - y = 7$, $x^2 - 2y^2 = 7x + 14$.

3. Simplify—

(*a*) $\sum_{abc} (b - c)(x + b + c)^2$;

(*b*) $\dfrac{log\sqrt{27} + log\ 8 - \frac{1}{2} log\ 1000}{log\ 1{\cdot}2} = 1\frac{1}{2}$.

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4. If x be real, prove that $\frac{2x-7}{2x^2-2x-5}$ can have no real value between $\frac{1}{11}$ and 1.

5. Sum to infinity—

$$\frac{3}{2} - \frac{2}{3} + \frac{8}{27} - \ldots\ldots,$$

and show that if n geometrical means be found between two quantities a and c, their product is $(ac)^{\frac{n}{2}}$.

6. Find the number of permutations of the letters in the word ratiocination when taken all together, and also when taken 12 at a time.

7. (*a*) Describe a square equal to a given rectilineal figure.

(*b*) Prove that the opposite angles of any convex quadrilateral inscribed in a circle are together equal to two right angles.

(*c*) Show that similar triangles are to one another in the duplicate ratio of two corresponding sides.

8. Show that the straight line joining the mid-points of the sides of a triangle is equal to half the base.

9. Prove that in any quadrilateral the sum of the squares on the four sides exceeds the sum of the squares on the diagonals by four times the square on the straight line joining the mid-points of the diagonals.

10. P is a variable point on the arc AB. Prove that the bisector of $<$ APB always passes through a fixed point.

11. (*a*) Prove that $\sin 15^\circ = \frac{\sqrt{3}-1}{2\sqrt{2}}$, and $\sin 18^\circ = \frac{\sqrt{5}-1}{4}$.

(*b*) Prove geometrically—

$$\cos(A - B) = \cos A \cos B + \sin A \sin B.$$

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12. If A, B, C are in A.P., show that

$$\frac{\sin A - \sin C}{\cos C - \cos A} = \frac{\cos B}{\sin B}.$$

13. Solve the equation—

$$\sec 4\theta - \sec 2\theta = 2.$$

14. The sides of a triangle are 5, 6, 7; find the greatest angle, having given

$$\text{L } \tan 39^\circ 13' = 9{\cdot}9117245, \text{ diff.} = 2579.$$

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